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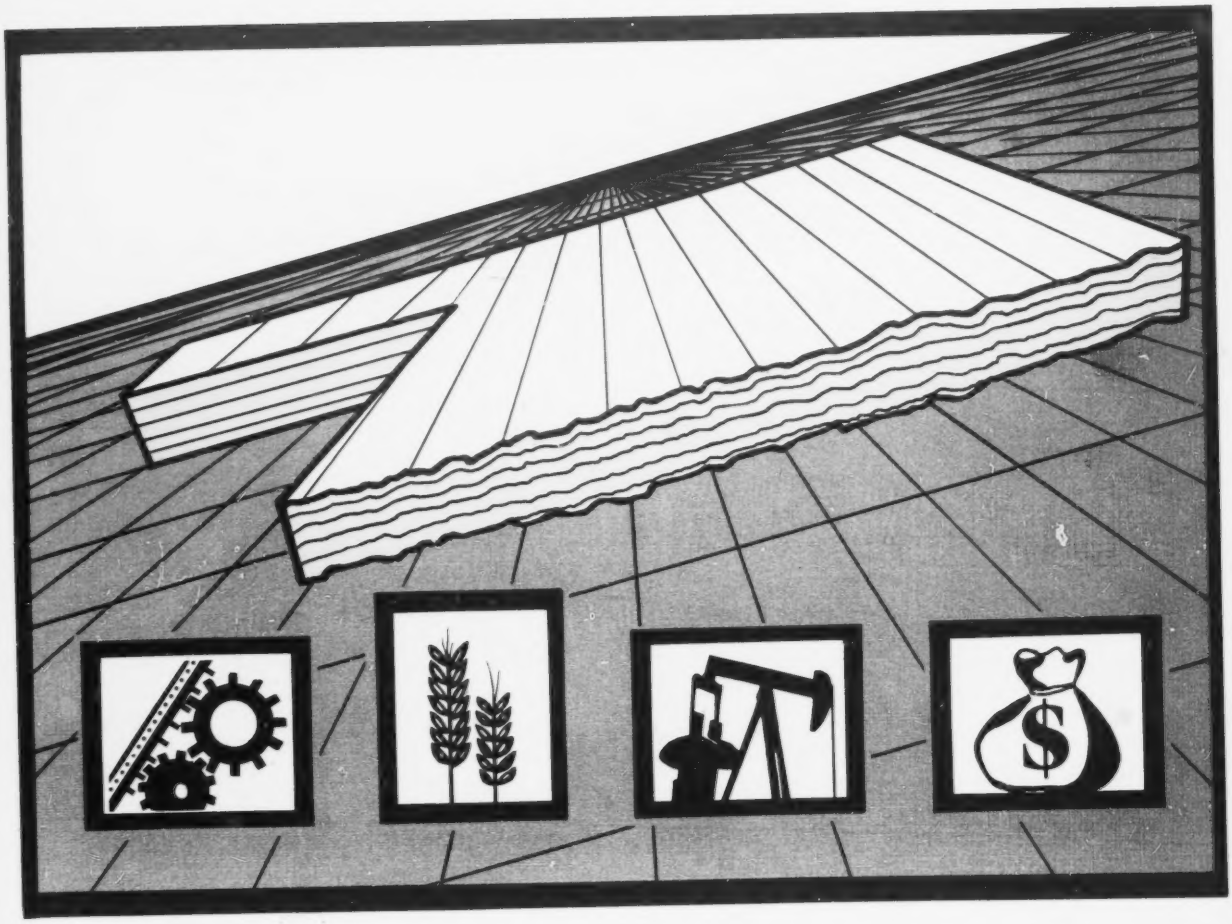
# OKLAHOMA BUSINESS BULLETIN

CENTER FOR ECONOMIC AND MANAGEMENT RESEARCH
COLLEGE OF BUSINESS ADMINISTRATION
THE UNIVERSITY OF OKLAHOMA

June 1990

VOL. 58, ISSUE 6



The *Oklahoma Business Bulletin* is published each month by the Center for Economic and Management Research, 307 West Brooks, Room 4, Norman, Oklahoma 73019-0450. June 1990, volume 58, number 6, ISSN 0030-1671. Second class postage paid at Norman, Oklahoma. Subscription price per year is $10.00. Postmaster: Send address changes to the *Oklahoma Business Bulletin*, 307 W. Brooks, Room 4, Norman, Oklahoma 73069.

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Address all manuscripts and correspondence to:

*Oklahoma Business Bulletin*
Center for Economic and Management Research
307 West Brooks, Room 4
Norman, Oklahoma 73019-0450

The *Oklahoma Business Bulletin* is published by the Center for Economic and Management Research, College of Business Administration, The University of Oklahoma.

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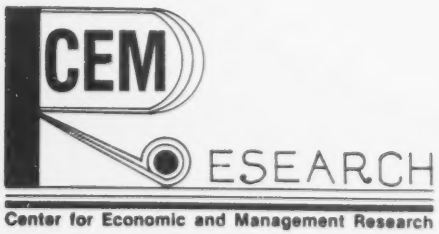


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## SUMMARY OF INDICATORS

| Category | 3 Mos. '90 | 3 Mos. '89 | March '90 | Percentage Change 3 Mos. '90/'89 | Percentage Change March/Feb. '90 |
|---|---|---|---|---|---|
| **Personal Income (Monthly Average)** | | | | | |
| Unadjusted ($000,000) | 4,031 | 3,746 | 4,063 | 7.6 | 0.8 |
| Adjusted for CPI ($000,000) | 3,149 | 3,078 | 3,157 | 2.3 | 0.2 |
| **Crude Oil Production (000 bbl)**[a] | 16,691 | 17,953 | 7,215 | -7.0 | -23.9 |
| **Natural Gas Production (000 mcf)**[a] | 323,170 | 342,754 | 140,323 | -5.7 | -23.3 |
| **Industrial Power Sales (000,000 Kwh)**[b] | 2,161 | 2,106 | 720 | 2.6 | -0.4 |
| **Total Bank Deposits (Monthly Average) ($000,000)**[c] | | | | | |
| Demand | 7,551 | 7,549 | 7,433 | 0.0 | -1.2 |
| Savings | 23,011 | 23,663 | 22,839 | -2.8 | -1.1 |
| **Savings and Loan Associations ($000,000)**[d] | | | | | |
| Assets | 9,824.7 | 10,781.8 | 9,734.4 | -8.9 | -1.8 |
| Mortgage Loans Closed | 21 | 47 | 20 | -55.3 | -10.8 |
| **General Business Index** | 97.9 | 95.7 | 97.4 | 2.3 | -0.2 |

Note: Includes revisions.

[a]One month and January data. Natural gas includes casinghead gas.

[b]Sales of larger privately owned utility companies.

[c]Total deposits of all depository institutions.

[d]Two months and February data.

## SELECTED ECONOMIC INDICATORS

| Category | 3 Mos. '90 | 3 Mos. '89 | March '90 | Percentage Change 3 Mos. '90/'89 | Percentage Change March/Feb. '90 |
|---|---|---|---|---|---|
| **PERMIT-AUTHORIZED CONSTRUCTION** | | | | | |
| Residential—Single Family | | | | | |
| Dollar Value ($000) | 83,030 | 80,856 | 28,916 | 2.7 | 9.9 |
| Number of Units | 1,001 | 957 | 358 | 4.6 | 15.9 |
| Residential—Multi Family | | | | | |
| Dollar Value ($000) | 899 | 5,513 | 670 | -83.7 | 366.4 |
| Number of Units | 43 | 175 | 32 | -75.4 | 540.0 |
| Nonresidential | | | | | |
| Commercial ($000) | 43,070 | 29,203 | 17,423 | 47.5 | 149.1 |
| Industrial ($000) | 53,401 | 7,260 | 5,687 | E | 40.4 |
| Institutional ($000) | 5,498 | 4,561 | 3,339 | 20.5 | 208.1 |
| Nonbuilding | | | | | |
| Streets and Highways ($000) | 40,943 | 47,621 | 27,800 | -14.0 | 111.5 |
| All Other Nonbuilding ($000) | 1,276 | 1,134 | 522 | 12.5 | -13.1 |
| Total Construction ($000) | 228,116 | 176,149 | 84,357 | 29.5 | 61.2 |
| **EMPLOYMENT TRENDS** | | | | | |
| Total Labor Force (000)[a] | 1,512.8 | 1,499.9 | 1,530.3 | 0.9 | 1.3 |
| Total Employment (000) | 1,422.2 | 1,400.9 | 1,447.1 | 1.5 | 2.6 |
| Unemployment Rate (%) | 6.3 | 6.6 | 5.4 | — | — |
| Wage and Salary Employment (000) | 1,155.5 | 1,141.5 | 1,166.4 | 1.2 | 0.8 |
| Manufacturing (000) | 162.5 | 161.7 | 164.8 | 0.5 | 0.4 |
| Mining (000) | 43.9 | 42.5 | 43.3 | 3.3 | -1.1 |
| Government (000) | 257.2 | 254.1 | 261.2 | 1.2 | 1.1 |
| Contract Construction (000) | 34.8 | 33.0 | 35.2 | 5.5 | 1.4 |
| Services (000) | 259.8 | 251.8 | 263.3 | 3.2 | 1.5 |
| Retail Trade (000) | 214.8 | 211.4 | 215.3 | 1.6 | 1.2 |
| **Average Weekly Hours (Per Worker)** | | | | | |
| Manufacturing | 41.7 | 40.7 | 41.6 | 2.5 | 1.2 |
| **Average Weekly Earnings ($ Per Worker)** | | | | | |
| Manufacturing | 440.19 | 426.87 | 451.36 | 3.1 | 3.3 |
| Contract Construction | 447.63 | 414.82 | 432.12 | 7.9 | -0.7 |
| Retail Trade[b] | 190.76 | 191.78 | 190.62 | -0.5 | 5.9 |

Note: Includes revisions in some previous months.

[a]Civilian Labor Force. Labor Force employment and unemployment rate refer to place of residence, non-agricultural wage and salary employment refers to place of work.

[b]Excluding eating and drinking places.

E = Exceeds 600 percent.

## RETAIL TRADE IN METRO AREAS AND STATE
($000)

| Retail Trade | 3 Mos. '90 Adjusted | 3 Mos. '89 Adjusted | March '90 Adjusted | March '90 Unadjusted | Percentage Change 3 Mos. '90/'89 Adjusted | Percentage Change March/Feb. '90 Adjusted | Percentage Change March/Feb. '90 Unadjusted |
|---|---|---|---|---|---|---|---|
| **OKLAHOMA CITY MSA** | | | | | | | |
| Food Group | 511,317 | 480,907 | 172,546 | 170,172 | 6.3 | 1.0 | 9.5 |
| Apparel Group | 87,646 | 79,272 | 28,991 | 31,524 | 10.6 | 1.0 | 40.0 |
| General Merchandise Group | 274,628 | 277,445 | 93,588 | 92,828 | -1.0 | 5.1 | 26.9 |
| Furniture Group | 88,938 | 77,650 | 33,649 | 30,384 | 14.5 | 25.6 | 23.1 |
| Lumber Group | 53,648 | 48,025 | 15,581 | 14,784 | 11.7 | -17.3 | 1.5 |
| Auto Dealers | 453,928 | 381,936 | 173,071 | 151,922 | 18.8 | 11.8 | -1.6 |
| Gasoline | 111,527 | 99,806 | 38,020 | 37,543 | 11.7 | 17.3 | 37.8 |
| All Other | 164,386 | 119,263 | 53,599 | 44,705 | 37.8 | -6.1 | 6.0 |
| Total | 1,746,018 | 1,564,304 | 609,045 | 573,862 | 11.6 | 5.3 | 11.6 |
| **TULSA MSA** | | | | | | | |
| Food Group | 387,736 | 350,798 | 133,264 | 133,694 | 10.5 | 4.3 | 16.4 |
| Apparel Group | 59,143 | 53,334 | 19,329 | 19,642 | 10.9 | -5.8 | 18.7 |
| General Merchandise Group | 252,082 | 207,729 | 80,414 | 80,386 | 21.4 | -2.9 | 26.8 |
| Furniture Group | 61,515 | 51,088 | 20,869 | 19,156 | 20.4 | -2.9 | -6.4 |
| Lumber Group | 48,809 | 43,888 | 15,705 | 14,583 | 11.2 | -3.4 | 13.4 |
| Auto Dealers | 282,256 | 237,026 | 108,185 | 95,378 | 19.1 | 11.8 | -1.6 |
| Gasoline | 68,848 | 61,706 | 23,414 | 23,005 | 11.6 | 16.9 | 37.8 |
| All Other | 54,053 | 52,731 | 19,811 | 19,982 | 2.5 | 6.0 | -8.9 |
| Total | 1,214,442 | 1,058,300 | 420,991 | 405,826 | 14.8 | 4.1 | 11.6 |
| **ENID MSA** | | | | | | | |
| Food Group | 27,194 | 26,028 | 9,472 | 9,458 | 4.5 | 3.8 | 16.3 |
| Apparel Group | 5,055 | 4,796 | 1,760 | 1,770 | 5.4 | 2.7 | 21.5 |
| General Merchandise Group | 24,411 | 19,955 | 8,501 | 8,131 | 22.3 | 6.3 | 39.8 |
| Furniture Group | 3,535 | 3,390 | 1,238 | 1,221 | 4.3 | 13.0 | 11.3 |
| Lumber Group | 3,496 | 2,957 | 1,109 | 998 | 18.2 | -5.5 | 27.3 |
| Auto Dealers | 20,417 | 17,089 | 7,984 | 6,754 | 19.5 | 13.5 | -1.6 |
| Gasoline | 6,437 | 5,767 | 2,189 | 2,153 | 11.6 | 16.7 | 37.8 |
| All Other | 5,912 | 6,591 | 1,576 | 1,639 | -10.3 | -12.7 | -3.8 |
| Total | 96,457 | 86,573 | 33,829 | 32,124 | 11.4 | 6.3 | 17.2 |
| **LAWTON MSA** | | | | | | | |
| Food Group | 33,118 | 39,020 | 11,365 | 11,720 | -15.1 | 2.8 | 16.5 |
| Apparel Group | 6,936 | 6,442 | 2,348 | 2,356 | 7.7 | -0.3 | 28.3 |
| General Merchandise Group | 36,319 | 36,086 | 11,856 | 11,228 | 0.6 | -2.3 | 19.2 |
| Furniture Group | 6,555 | 6,517 | 2,108 | 2,049 | 0.6 | 9.8 | 17.2 |
| Lumber Group | 5,397 | 5,419 | 1,757 | 1,808 | -0.4 | 0.2 | 33.7 |
| Auto Dealers | 35,705 | 30,007 | 13,689 | 11,994 | 19.0 | 12.2 | -1.6 |
| Gasoline | 9,670 | 8,627 | 3,256 | 3,289 | 12.1 | 14.6 | 37.8 |
| All Other | 4,004 | 6,087 | 1,573 | 1,490 | -34.2 | 25.6 | 9.7 |
| Total | 137,704 | 138,205 | 47,952 | 45,934 | -0.4 | 5.4 | 13.8 |
| **MUSKOGEE AREA** | | | | | | | |
| Food Group | 30,882 | 29,190 | 10,805 | 10,608 | 5.8 | 6.6 | 18.1 |
| Apparel Group | 6,598 | 6,347 | 2,233 | 2,343 | 4.0 | 5.4 | 44.7 |
| General Merchandise Group | 19,971 | 16,076 | 6,482 | 6,131 | 24.2 | -4.7 | 27.5 |
| Furniture Group | 3,435 | 3,151 | 1,181 | 1,097 | 9.0 | 17.7 | 25.9 |
| Lumber Group | 3,532 | 2,665 | 1,114 | 1,136 | 32.5 | -4.4 | 22.9 |
| Auto Dealers | 17,781 | 14,930 | 6,864 | 5,913 | 19.1 | 11.9 | -1.6 |
| Gasoline | 7,130 | 6,371 | 2,431 | 2,398 | 11.9 | 17.4 | 37.8 |
| All Other | 5,715 | 5,603 | 1,620 | 1,575 | 2.0 | -35.3 | -12.1 |
| Total | 95,044 | 84,333 | 32,730 | 31,201 | 12.7 | 2.5 | 16.7 |
| **STATE**[a] | | | | | | | |
| **Durable Goods** | 1,531,345 | 1,354,403 | 559,085 | 494,669 | 13.1 | 6.7 | 0.6 |
| Auto Dealers | 1,064,853 | 895,442 | 407,936 | 355,651 | 18.9 | 11.9 | -1.6 |
| Accessory Dealers | 98,278 | 94,754 | 31,675 | 31,325 | 3.7 | -7.2 | 7.3 |
| Total Automotive | 1,163,131 | 990,196 | 439,611 | 386,976 | 17.5 | 10.2 | -0.9 |
| Furniture | 121,329 | 103,627 | 38,644 | 39,364 | 17.1 | -3.2 | 5.2 |
| Household Appliances | 65,059 | 66,822 | 21,855 | 20,820 | -2.6 | 2.1 | 8.1 |
| Total Furniture and Appliances | 186,388 | 170,449 | 60,499 | 60,184 | 9.4 | -1.4 | 6.2 |
| Lumber and Building Materials | 154,768 | 138,226 | 48,064 | 42,960 | 12.0 | -6.6 | 7.7 |
| Hardware Stores | 18,054 | 16,797 | 6,062 | 5,944 | 7.5 | 1.1 | 23.2 |
| Total Lumber, Building Materials & Hardware | 172,822 | 155,023 | 54,126 | 48,904 | 11.5 | -5.8 | 9.3 |
| **Nondurable Goods** | 2,957,098 | 2,814,359 | 1,003,494 | 977,452 | 5.1 | 3.3 | 17.7 |
| Apparel | 215,364 | 203,759 | 70,196 | 75,682 | 5.7 | -2.5 | 35.1 |
| Drug Stores | 116,321 | 110,969 | 36,379 | 36,060 | 4.8 | -11.5 | -8.1 |
| Eating and Drinking Places | 456,907 | 418,000 | 156,330 | 156,910 | 9.3 | 3.8 | 17.7 |
| Food Group | 954,406 | 914,832 | 326,951 | 317,182 | 4.3 | 2.0 | 13.3 |
| Gasoline | 328,888 | 294,501 | 111,759 | 110,038 | 11.7 | 15.8 | 37.8 |
| General Merchandise Group | 697,372 | 670,386 | 235,031 | 211,830 | 4.0 | 0.9 | 15.2 |
| **Total Retail Trade** | 4,488,443 | 4,168,762 | 1,562,579 | 1,472,121 | 7.7 | 4.5 | 11.4 |

[a]Total includes data for categories not shown in the table.

## RETAIL TRADE IN SELECTED CITIES
($000)

| Retail Trade | 3 Mos. '90 | 3 Mos. '89 | March '90 | | Percentage Change 3 Mos. '90/'89 | Percentage Change March/Feb. '90 | |
|---|---|---|---|---|---|---|---|
| | Adjusted | Adjusted | Adjusted | Unadjusted | Adjusted | Adjusted | Unadjusted |
| Ada | 38,974 | 35,787 | 13,050 | 12,254 | 8.9 | -0.3 | 4.4 |
| Altus | 38,578 | 34,505 | 13,338 | 12,927 | 11.8 | 2.5 | 11.4 |
| Alva | 11,739 | 10,627 | 3,949 | 3,844 | 10.5 | -0.1 | 14.9 |
| Anadarko | 12,820 | 12,045 | 4,264 | 4,132 | 6.4 | -0.6 | 12.6 |
| Ardmore | 58,574 | 52,362 | 20,385 | 18,864 | 11.9 | 5.8 | 10.2 |
| Bartlesville | 76,247 | 70,701 | 26,495 | 26,292 | 7.8 | 5.8 | 14.4 |
| Blackwell | 8,892 | 8,511 | 3,057 | 2,993 | 4.5 | 3.3 | 18.2 |
| Broken Arrow | 81,551 | 73,507 | 28,274 | 27,791 | 10.9 | 4.8 | 13.4 |
| Chickasha | 32,121 | 28,735 | 11,302 | 11,301 | 11.8 | 8.0 | 19.3 |
| Clinton | 20,746 | 19,241 | 7,337 | 7,003 | 7.8 | 4.6 | 11.5 |
| Cushing | 14,928 | 13,763 | 5,109 | 4,860 | 8.5 | 3.0 | 15.6 |
| Del City | 28,458 | 27,124 | 9,970 | 9,798 | 4.9 | 6.1 | 17.7 |
| Duncan | 52,604 | 47,387 | 18,021 | 17,872 | 11.0 | 2.8 | 11.3 |
| Durant | 31,582 | 26,572 | 11,107 | 10,480 | 18.9 | 8.7 | 19.8 |
| Edmond | 78,628 | 68,627 | 27,328 | 26,224 | 14.6 | 3.9 | 13.8 |
| Elk City | 25,019 | 22,017 | 8,721 | 8,404 | 13.6 | 3.9 | 12.0 |
| El Reno | 27,532 | 25,396 | 9,604 | 9,363 | 8.4 | 7.0 | 12.0 |
| Guthrie | 18,493 | 16,752 | 6,543 | 6,294 | 10.4 | 8.0 | 11.0 |
| Guymon | 15,341 | 14,583 | 5,258 | 5,129 | 5.2 | 1.4 | 9.0 |
| Henryetta | 11,822 | 10,656 | 4,041 | 3,826 | 10.9 | 4.8 | 22.0 |
| Hobart | 7,579 | 7,356 | 2,699 | 2,500 | 3.0 | 11.2 | 16.4 |
| Holdenville | 7,092 | 6,658 | 2,473 | 2,349 | 6.5 | 5.3 | 14.3 |
| Hugo | 12,803 | 11,165 | 4,579 | 4,243 | 14.7 | 10.3 | 11.5 |
| Idabel | 17,010 | 15,321 | 5,874 | 5,636 | 11.0 | 3.0 | 7.6 |
| Lawton | 126,637 | 128,692 | 43,882 | 42,345 | -1.6 | 4.1 | 13.7 |
| McAlester | 41,186 | 36,076 | 14,024 | 13,632 | 14.2 | 0.9 | 10.9 |
| Miami | 33,860 | 29,764 | 11,678 | 11,161 | 13.8 | 5.0 | 13.7 |
| Midwest City | 142,996 | 126,796 | 50,177 | 48,618 | 12.8 | 6.2 | 9.4 |
| Moore | 48,692 | 44,172 | 16,343 | 16,631 | 10.2 | 1.7 | 8.7 |
| Muskogee | 87,356 | 77,678 | 30,317 | 28,529 | 12.5 | 4.9 | 16.1 |
| Norman | 164,156 | 147,906 | 58,262 | 52,858 | 11.0 | 4.9 | 4.8 |
| Oklahoma City | 877,698 | 801,372 | 304,814 | 288,541 | 9.5 | 3.9 | 14.7 |
| Okmulgee | 17,322 | 15,714 | 6,099 | 5,978 | 10.2 | 8.5 | 16.4 |
| Pauls Valley | 16,671 | 15,186 | 5,996 | 5,827 | 9.8 | 16.8 | 21.8 |
| Pawhuska | 5,665 | 5,352 | 2,010 | 1,832 | 5.8 | 14.9 | 18.0 |
| Ponca City | 57,001 | 50,948 | 19,523 | 18,599 | 11.9 | 2.9 | 15.0 |
| Poteau | 20,218 | 17,618 | 7,183 | 6,908 | 14.8 | 10.5 | 14.5 |
| Sand Springs | 30,108 | 26,493 | 10,096 | 9,772 | 13.6 | 1.4 | 14.3 |
| Sapulpa | 29,413 | 27,318 | 10,371 | 9,592 | 7.7 | 5.6 | 18.5 |
| Seminole | 15,003 | 13,520 | 5,268 | 4,886 | 11.0 | 7.6 | 16.7 |
| Shawnee | 73,806 | 67,740 | 25,581 | 23,528 | 9.0 | 3.1 | 10.8 |
| Stillwater | 58,759 | 54,343 | 20,146 | 18,188 | 8.1 | 3.1 | 9.2 |
| Tahlequah | 26,561 | 22,608 | 9,100 | 8,781 | 17.5 | 4.8 | 17.1 |
| Tulsa | 889,477 | 780,360 | 308,266 | 296,123 | 14.0 | 5.4 | 11.6 |
| Watonga | 4,688 | 4,342 | 1,553 | 1,457 | 8.0 | 0.6 | 15.5 |
| Weatherford | 21,138 | 19,513 | 7,877 | 7,353 | 8.3 | 20.9 | 23.6 |
| Wewoka | 4,325 | 4,052 | 1,481 | 1,427 | 6.7 | 2.7 | 9.6 |
| Woodward | 35,570 | 31,825 | 12,628 | 12,147 | 11.8 | 10.1 | 22.1 |
| **Total Selected Cities** | 3,557,439 | 3,208,786 | 1,235,453 | 1,179,092 | 10.9 | 4.8 | 12.8 |

Sources for all tables: Local utilities companies; 10th Federal Reserve District Member Banks; Federal Home Loan Bank of Topeka; Oklahoma Employment Security Commission; United States Department of Commerce, Construction Statistics Division; Oklahoma Department of Transportation, *Progressive Report of the Transportation Director;* Center for Economic and Management Research, College of Business Administration, The University of Oklahoma. The data for all tables were compiled by Marjorie E. Earley, Statistician for CEMR and Brian Hickey, Data Analyst.

Printed by University Printing Services. Seven hundred copies were prepared and distributed at a total of $500.00. Cost to the taxpayers of the State of Oklahoma: $312.00. June 1990.
The *Oklahoma Business Bulletin* is published each month by the Center for Economic and Management Research, 307 West Brooks, Room 4, Norman, Oklahoma 73019. June 1990, volume 58, number 6. Second class postage paid at Norman, Oklahoma 73070. Postmaster: Send address changes to the *Oklahoma Business Bulletin*, 307 W. Brooks, Room 4, Norman, Oklahoma 73069.

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## ENID AND LAWTON MSAs

| Category | 3 Mos. '90 | 3 Mos. '89 | March '90 | Percentage Change 3 Mos. '90/'89 | Percentage Change March/Feb. '90 |
|---|---|---|---|---|---|
| **ENID MSA** | | | | | |
| **Employment (Number)** | | | | | |
| Labor Force[a] | 27,133 | 25,025 | 27,525 | 8.4 | 0.7 |
| Total Employment | 25,775 | 26,100 | 26,300 | -1.2 | 2.2 |
| Unemployment Rate (%) | 5.0 | 5.8 | 4.5 | — | — |
| Wage and Salary Employment | 21,400 | 21,400 | 21,600 | 0 | 0.9 |
| Wholesale and Retail Trade | 6,200 | 5,900 | 6,200 | 5.1 | 0 |
| Manufacturing | 1,500 | 1,500 | 1,500 | 0 | 0 |
| **Industrial Power Sales (000 Kwh)** | 109,578 | 110,593 | 38,368 | -0.9 | 6.4 |
| **PERMIT-AUTHORIZED CONSTRUCTION** | | | | | |
| Residential—Single Family | | | | | |
| Dollar Value ($000) | 966 | 110 | 375 | E | 14.0 |
| Number of Units | 9 | 1 | 4 | E | 33.3 |
| Residential—Multi Family | | | | | |
| Dollar Value ($000) | 0 | 0 | 0 | 0.0 | 0.0 |
| Number of Units | 0 | 0 | 0 | 0.0 | 0.0 |
| Nonresidential | | | | | |
| Commercial ($000) | 74 | 557 | 49 | -86.6 | 185.1 |
| Industrial ($000) | 0 | 0 | 0 | 0.0 | 0.0 |
| Institutional ($000) | 0 | 0 | 0 | 0.0 | 0.0 |
| Nonbuilding | | | | | |
| Streets and Highways ($000) | 1,188 | 398 | 1,188 | 198.1 | — |
| All Other Nonbuilding ($000) | 0 | 6 | 0 | — | 0.0 |
| Total Construction ($000) | 2,231 | 1,071 | 1,611 | 108.3 | 365.7 |
| **LAWTON MSA** | | | | | |
| **Employment (Number)**[a] | | | | | |
| Labor Force[b] | 47,700 | 47,083 | 48,650 | 1.3 | 2.4 |
| Total Employment | 44,992 | 44,525 | 45,875 | 1.0 | 3.1 |
| Unemployment Rate (%) | 5.7 | 5.4 | 5.7 | — | — |
| Wage and Salary Employment | 34,700 | 33,600 | 35,000 | 3.3 | 1.4 |
| **Industrial Power Sales (000 Kwh)** | 49,760 | 45,547 | 16,310 | 9.2 | -3.2 |
| **PERMIT-AUTHORIZED CONSTRUCTION** | | | | | |
| Residential—Single Family | | | | | |
| Dollar Value ($000) | 2,603 | 1,403 | 1,326 | 85.5 | 99.1 |
| Number of Units | 25 | 16 | 10 | 56.3 | 25.0 |
| Residential—Multi Family | | | | | |
| Dollar Value ($000) | 0 | 0 | 0 | 0.0 | 0.0 |
| Number of Units | 0 | 0 | 0 | 0.0 | 0.0 |
| Nonresidential | | | | | |
| Commercial ($000) | 3,839 | 384 | 3,200 | E | E |
| Industrial ($000) | 2,470 | 0 | 65 | — | -97.3 |
| Institutional ($000) | 0 | 0 | 0 | 0.0 | 0.0 |
| Nonbuilding | | | | | |
| Streets and Highways ($000) | 197 | 16 | 197 | E | — |
| All Other Nonbuilding ($000) | 0 | 0 | 0 | 0.0 | 0.0 |
| Total Construction ($000) | 9,109 | 1,803 | 4,788 | 405.1 | 42.7 |

Note: Includes revisions.

E = Exceeds 600 percent.

[a]Civilian Labor Force.

## MUSKOGEE MA

| Category | 3 Mos. '90 | 3 Mos. '89 | March '90 | Percentage Change 3 Mos. '90/'89 | Percentage Change March/Feb. '90 |
|---|---|---|---|---|---|
| **Employment (Number)** | | | | | |
| Labor Force[a] | 30,417 | 30,525 | 30,550 | -0.4 | 0.3 |
| Total Employment | 28,158 | 27,900 | 28,475 | 0.9 | 1.7 |
| Unemployment Rate (%) | 7.4 | 8.6 | 6.8 | — | — |
| **Industrial Power Sales (000 Kwh)** | 44,578 | 41,351 | 15,659 | 7.8 | 4.8 |
| Port of Muskogee | | | | | |
| Tons in | 25,665 | 20,840 | 9,644 | 23.2 | -3.5 |
| Tons out | 34,784 | 20,009 | 18,198 | 73.8 | 197.1 |

Note: Includes revisions.

[a]Civilian Labor Force.

## TULSA MSA

| Category | 3 Mos. '90 | 3 Mos. '89 | March '90 | Percentage Change 3 Mos. '90/'89 | Percentage Change March/Feb. '90 |
|---|---|---|---|---|---|
| **Employment (Number)** | | | | | |
| Labor Force[a] | 338,900 | 334,000 | 343,800 | 1.5 | 1.6 |
| Total Employment | 318,100 | 310,500 | 324,500 | 2.4 | 3.0 |
| Unemployment Rate (%) | 6.1 | 7.0 | 5.6 | — | — |
| Wage and Salary Employment | 309,800 | 298,300 | 312,200 | 3.9 | 3.9 |
| Manufacturing | 53,300 | 52,300 | 53,700 | 1.9 | 0.9 |
| Mining | 12,300 | 12,200 | 12,500 | 0.8 | 0.8 |
| Government | 36,700 | 36,900 | 37,200 | -0.5 | 1.1 |
| Wholesale and Retail Trade | 73,500 | 71,100 | 73,700 | 3.4 | 0.4 |
| **Average Weekly Earnings** | | | | | |
| Manufacturing ($ Per Worker) | 463.87 | 437.20 | 461.70 | 6.1 | 2.5 |
| **Industrial Power Sales (000 Kwh)** | 592,464 | 569,753 | 199,052 | 4.0 | 0.6 |
| **Mortgage Loans Closed ($000,000)[b]** | 11 | 27 | 4 | -59.3 | -25.1 |
| **Bank Deposits ($000,000)[c]** | | | | | |
| Demand Deposits | 1,044 | 932 | 1,038 | 12.0 | 0.2 |
| Time and Savings Deposits | 2,091 | 2,087 | 2,040 | 0.2 | -2.3 |
| **Air Transportation** | | | | | |
| Passengers Enplaning (Number) | 333,347 | 303,980 | 130,114 | 9.7 | 11.1 |
| Passengers Deplaning (Number) | 341,795 | 306,846 | 129,938 | 11.4 | 12.6 |
| Freight (Tons) | 7,494 | 6,308 | 2,755 | 18.8 | 20.3 |
| **Water Transportation** | | | | | |
| Tulsa Port of Catoosa | | | | | |
| Tons In | 155,483 | 140,347 | 60,423 | 10.8 | 6.9 |
| Tons Out | 388,218 | 362,633 | 85,029 | 7.2 | -29.7 |
| **PERMIT-AUTHORIZED CONSTRUCTION** | | | | | |
| Residential—Single Family | | | | | |
| Dollar Value ($000) | 36,235 | 33,774 | 14,402 | 7.3 | 28.2 |
| Number of Units | 459 | 423 | 183 | 8.5 | 27.1 |
| Residential—Multi Family | | | | | |
| Dollar Value ($000) | 76 | 63 | 0 | 20.1 | — |
| Number of Units | 2 | 2 | 0 | 0.0 | — |
| Nonresidential | | | | | |
| Commercial ($000) | 26,810 | 9,654 | 11,045 | 177.7 | 566.2 |
| Industrial ($000) | 49,374 | 6,884 | 5,062 | E | 377.2 |
| Institutional ($000) | 4,267 | 939 | 3,339 | 354.4 | 273.5 |
| Nonbuilding | | | | | |
| Streets and Highways ($000) | 1,825 | 4,034 | 616 | -54.8 | -49.1 |
| All Other Nonbuilding ($000) | 865 | 607 | 297 | 42.4 | -38.9 |
| Total Construction | 119,453 | 55,916 | 34,762 | 113.6 | 109.1 |
| **General Business Index** | 97.5 | 91.8 | 98.2 | 6.2 | 0.6 |

Note: Includes revisions.

[a]Civilian Labor Force.

[b]By Savings and Loan Associations.

[c]Deposits of large commercial banks (accounted for 57 percent of all commercial bank deposits as of December 31, 1989).

## OKLAHOMA CITY MSA

| Category | 3 Mos. '90 | 3 Mos. '89 | March '90 | Percentage Change 3 Mos. '90/'89 | Percentage Change March/Feb. '90 |
|---|---|---|---|---|---|
| **Employment (Number)** | | | | | |
| Labor Force[a] | 499,400 | 492,900 | 505,000 | 1.3 | 1.6 |
| Total Employment | 471,400 | 467,100 | 483,000 | 0.9 | 2.6 |
| Unemployment Rate (%) | 5.6 | 5.2 | 4.4 | — | — |
| Wage and Salary Employment | 425,100 | 420,200 | 431,000 | 1.1 | 0.9 |
| Manufacturing | 47,300 | 48,400 | 48,800 | -2.3 | -0.6 |
| Mining | 10,900 | 11,100 | 10,900 | -1.8 | 1.9 |
| Government | 102,700 | 99,900 | 104,400 | 2.8 | 1.4 |
| Wholesale and Retail Trade | 102,700 | 102,000 | 103,200 | 0.7 | 0.7 |
| **Average Weekly Earnings** | | | | | |
| Manufacturing ($ Per Worker) | 477.84 | 485.87 | 502.24 | -1.7 | 6.2 |
| **Industrial Power Sales (000 Kwh)** | 304,559 | 296,058 | 104,001 | 2.9 | 4.0 |
| **Mortgage Loans Closed ($000,000)[b]** | 5 | 9 | 5 | -44.4 | -8.6 |
| **Bank Deposits ($000,000)[c]** | | | | | |
| Demand Deposits | 846 | 843 | 782 | 0.4 | -11.1 |
| Time and Savings Deposits | 1,159 | 1,181 | 1,158 | -1.9 | -0.5 |
| **Air Transportation** | | | | | |
| Passengers Enplaning (Number) | 350,655 | 336,490 | 137,453 | 4.2 | 30.1 |
| Passengers Deplaning (Number) | 354,521 | 340,779 | 134,733 | 4.0 | 26.3 |
| Freight Enplaned (Tons) | 2,564 | 1,886 | 924 | 36.0 | 22.4 |
| Freight Deplaned (Tons) | 3,561 | 2,415 | 1,298 | 47.5 | 23.7 |
| **PERMIT-AUTHORIZED CONSTRUCTION** | | | | | |
| Residential—Single Family | | | | | |
| Dollar Value ($000) | 36,808 | 37,798 | 9,836 | -2.6 | -22.5 |
| Number of Units | 444 | 411 | 134 | 8.0 | -5.0 |
| Residential—Multi Family | | | | | |
| Dollar Value ($000) | 670 | 5,450 | 670 | -87.7 | — |
| Number of Units | 32 | 173 | 32 | -81.5 | — |
| Nonresidential | | | | | |
| Commercial ($000) | 7,688 | 11,196 | 2,463 | -31.3 | 71.4 |
| Industrial ($000) | 1,018 | 122 | 400 | E | -32.2 |
| Institutional ($000) | 866 | 2,346 | 0 | -63.1 | 0.0 |
| Nonbuilding | | | | | |
| Streets and Highways ($000) | 16,675 | 5,122 | 14,046 | 225.6 | 434.3 |
| All Other Nonbuilding ($000) | 357 | 486 | 205 | -26.5 | 91.7 |
| Total Construction ($000) | 64,082 | 62,519 | 27,620 | 2.5 | 58.3 |
| **General Business Index** | 95.1 | 95.0 | 95.7 | 0.0 | 0.4 |

Note: Includes revisions.
E = Exceeds 600 percent.

[a]Civilian Labor Force.

[b]By Savings and Loan Associations.

[c]Deposits of large commercial banks (accounted for 33 percent of all commercial bank deposits as of December 31, 1989).

# *Business Highlights*

DAVID PENN

THE OKLAHOMA ECONOMY achieved respectable gains in first quarter of 1990, showing improvements in several indicators including employment, construction, retail sales, and air transportation. While growth could not be described as robust, the first quarter is particularly notable for the breadth of gains across sectors of economic activity. For example:

- Both measures of employment (total employment and wage and salary employment) registered gains during the first quarter relative to 1989
- All but one of the major industries experienced employment gains, including the usually weak mining and construction sectors
- Construction activity rose, with large gains in commercial and industrial construction and modest but welcome gains in single family residential construction
- Retail sales increased in every major category except household appliances
- Weekly hours worked and average weekly earnings showed gains in the manufacturing and construction sectors, and
- Industrial power sales rose modestly.

The only sectors left behind by this broad advance of economic activity included the oil and gas production and financial sectors. In the oil and gas production sector the volume of crude oil and natural gas output fell 7.0 percent and 5.7 percent, respectively, from levels of first quarter 1989. In the financial sector, demand deposits showed no change while bank savings, savings and loan assets, and mortgage loans all experienced declines.

Although modest by comparison with employment growth rates achieved in the state in 1988 and 1989, the 1.2 percent gain in wage and salary employment ranked Oklahoma 38th among the fifty states and District of Columbia, a welcome respite from the bottom ten. The services sector rose by 7,200 jobs relative to 1989, representing more than half the increase in wage and salary employment. Construction employment jumped 1,900 jobs during the period, rising by a large 5.7 percent over the first quarter of 1989. Other significant year-to-year gains occurred in mining (1,400), wholesale trade (3,400), and transportation, communication, and public utilities (1,400). The only major sector to lose employment was finance, insurance, and real estate, falling by 2,500 jobs.

Most of the first quarter employment gains occurred in the Tulsa metropolitan area. Wage and salary employment increased by 11,500, accounting for 82 percent of the gains in Oklahoma from one year earlier. In addition, the Tulsa area experienced very strong gains in retail sales, air transportation, and demand deposits. Industrial construction shot up by more than $40 million due to the work on the American Airlines facility.

Even though Oklahoma manufacturing employment increased by only 0.5 percent from the first quarter of 1989, this was enough to rank Oklahoma 20th in percentage manufacturing employment gain. Weakness in the manufacturing sector became widespread in New England, the Mid-Atlantic region, and the Great Lakes states. In fact, manufacturing employment fell in the U.S. by nearly one percent from the first quarter of 1989 with twenty-five states suffering employment losses in this sector.

The recent disruptions in the U.S. manufacturing sector have created a situation in which the petroleum and agricultural states no longer lay exclusive claim to the growth cellar (the ten states with the slowest rate of employment growth). That dubious honor now belongs to the manufacturing oriented states in New England,

Great Lakes area, and the Mid-Atlantic. Virtually all the New England states are now in the bottom ten states in terms of employment growth rate. In addition, the bottom ten is now occupied by states such as New York, Pennsylvania, Michigan, and New Jersey. Massachusetts, well known for economic miracles in the mid-1980s, ranks 50th among the states in employment growth rate.

This is not to suggest that all states are experiencing slow employment growth. By contrast, wage and salary employment grew by at least 3.5 percent in eleven states; eight of these states are west of the Rocky Mountains. In addition, employment growth appears to be strong in the southern states of South Carolina, Georgia, Kentucky, and Florida.

The economic difficulties currently being felt by the manufacturing-intensive areas raise renewed cautions regarding an upcoming slowdown in the U.S. economy. Economic analysts that continue to minimize the likelihood of a national economic slowdown apparently don't live in New England or the Middle Atlantic states.

Besides weakness in the manufacturing sector, further cause for concern in the national economy is raised by the rate of increase of employment costs. Total compensation rose 5.2 percent in the first quarter from 12 months earlier, fueled by a 7.2 percent rise in benefit costs. These percent increases were the largest gains since 1983 and suggest further upward pressure on price levels during the next few quarters. Rising employment costs and weakness in the economically powerful manufacturing states should raise the warning flag of slower economic growth for the Oklahoma economy.

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# *An Analysis of Oklahoma's Economy*

CRAIG KNUTSON

THE FOLLOWING IS AN ANALYSIS of the economy for Oklahoma and its two largest metros during the 4th quarter 1989. The analysis will cover seven subsectors of the economy, with the subsector carrying the greatest amount of weight first, followed by the remaining subsectors in decreasing importance to the GBI. A look at the 1st quarter 1990 is offered based upon preliminary data and professional intuition.

## Energy

The Energy Subsector rose a scant 0.3 percent over the 4th quarter of 1988, with all of the coincident indicators showing some strength relative to last year. The minuscule increase for the 4th quarter can be blamed on the two leading indicators: seismic crew activity and intent-to-drill (ITD) permits. Those two fell 16.2 percent and 0.2 percent, respectively, from the 4th quarter of 1988. Three other indicators — rig activity, oil & gas extraction employment, and combined gross production tax collections—all rose from the previous quarter and the same quarter, last year. Rig activity was up 15.8 percent, employment up 2 percent, and tax collections up an inflation-adjusted 8.8 percent. Unfortunately, those increases are more a reflection of a weak 1988 than a strong 1989.

The seismic crew and ITD numbers don't bode well for the state's energy industry, despite price runups in late '89-early '90 and what international and national analysts were predicting for the industry. While Oklahoma ranked second nationally in new well completions (oil & natural gas) in 1989, that total represented this state's worst performance in over 30 years. In the area of oil production and promise, the adage "the more things change, the more they stay the same" is frighteningly accurate. The *Wall Street Journal* reported that "Energy" was the industry/group leader in December 1989 (Stock price appreciation), with "Oil Drilling" leading the way with a 22.85 percent increase in one month alone. For all of 1989, "Oil Drilling" posted an 89.75 percent increase. The "Major Oil Companies" and "Oil Field Equipment" Groups also posted double digit increases in value during the year. While the "energy pundits," both within the state and outside, forecasted a stronger year for oil prices, energy companies (e.g., Phillips) were planning to increase their exploration and production budgets. And for the first two months of 1990, everyone looked like a forecasting genius.

As has been reported many times in this space, the laws of economics eventually find their way back into the equation, and when they do, someone gets hit. Higher prices beget higher production, and when Oklahoma Sweet hit $22.00 and West Texas Intermediate (WTI) spot prices went over $23.00, production levels began to rise. While a very cold December certainly helped prices temporarily (due to supply shortages), by the end of March and the first of April, OPEC production levels were reported at over 24 million barrels/day, and prices dropped precipitously. Those in the industry expect the seasonal drop in prices and rig activity; this year's was just much more severe. Aberrations are cyclical as well, meaning that for most "upsides" there are "downsides." As we enter the 2nd quarter, oil is very much in a "downside." By mid-April, May delivery WTI had dropped to a 14 month low of $17.68. While it didn't and won't stay at that level indefinitely, the market dynamics point to a very volatile 1st quarter and a very weak 2nd quarter.

Once again, Oklahomans can pay homage to their real "energy god" — natural gas. Natural gas production reached record levels in 1989, despite miserably low prices. Majors like ARCO, AMOCO, EXXON, and

Texaco have all invested heavily in the Arkoma Basin, and some independent drillers have even paid over $1,000/acre for nearby lease rights, something last reported in the early 1980's. Future prospects are even brighter when you consider the $500 million plus investments made last year by ARKLA, MidCon, and ANR. Those companies are either building new or expanding existing pipelines that open up national markets in the east, midwest, and west to Oklahoma gas. As this goes to press, Hadson Gas Systems has committed to build gathering lines to tie into Transok's new pipeline, opening up even more Oklahoma gas to the continental U.S.

As we start the 2nd quarter of 1990, headlines like "Saudis Make Ready To Open Spigots" and "OPEC Members Become Increasingly Nervous As Oil Prices Plunge Again" remind us of "deja vu all over again!" Those could have been headlines from late 1985, but they aren't. Little wonder that 63 percent of all severance tax collections in Oklahoma come from natural gas, *despite* the lower prices. The investments made in the natural gas infrastructure are significant, and they are private-sector driven. Expected rates of return dictate that long-term profitability is virtually assured. As I have stated so many times over the past five years, the natural gas segment of our energy industry is dictating how profitable the industry will be overall. Major "Oil" companies are now describing themselves as "Diversified Energy" companies; that means natural gas is keeping them profitable or returning them to profitability. Regardless of how you state it, natural gas is the energy commodity of the future in Oklahoma, and with the aforementioned investments being made, that future is bright.

## Manufacturing

The Manufacturing Subsector posted a rare, but not totally unexpected, decline in the 4th quarter. Given the trends nationally, it is significant that this subsector only declined 2.5 percent from last year. Despite a 1.2 percent rise in Manufacturing employment from the 4th quarter of 1988, weekly hours worked in the Manufacturing Sector continued to rise, posting a 2 percent increase from last year. Within the GBI, weekly hours worked is negatively correlated, meaning that a rise in hours worked reflects a drag on the index. Weekly hours worked has been running in the 41-43 range, meaning employers, on an average, are working their employees more rather than hiring new employees. Again, given the 4th quarter national trends, from the National Association of Purchasing Managers (NAPM) to employment, such cautiousness was probably warranted.

The continued rise in the dollar during the 4th quarter fueled much of the pessimism within this subsector. The NAPM survey for December remained below the 50 percent level for the eighth consecutive month, although it did reach its highest level since June 1989. Nonetheless, a reading below 50 percent suggests the factory sector is shrinking. Most of the economic experts quoted on 4th quarter manufacturing trends talked of "weakness" but with potential for "slight firming in 1990." In other words, the data was mixed. New orders for durable goods rose strongly in both November and December, yet machine tool orders fell 34 percent in December alone and concluded a very dismal year (off 22 percent from 1988). December's total manufacturing employment registered 19,489,000, down 100,000 from December 1988's total. The slumping domestic auto industry, as well as several nationwide strikes helped contribute to those declines. But, remember, over that same one year period (December-December), the overall economy generated 2.4 million jobs. So, to say the manufacturing sector was weak in 1989 is somewhat of an understatement.

Despite that nationwide performance, Oklahoma performed quite well. While the Subsector posed a decline for the quarter, the annual average for Manufacturing Employment reached 163,200 in 1989, up 0.7 percent from 1988. The December-December comparison showed a 2,800 increase to 165,000. Through March 1990, employment has risen further to 165,800, showing surprising strength in light of national trends. One possible reason could be the Oklahoma Department of Commerce (ODOC) report showing that announced investment in new and expanded manufacturers reached $706 million in 1989, just over the $703.7 million announced the previous year. This two year total is the highest in the 1980s, in real or nominal terms! While some of the investment is "planned," much has already been contracted and is taking place. In fact, Oklahoma ranked 7th nationally, from 1987-89, in the number of new plants and expansions, as compiled by Site Selection magazine. The most heartening news about the growth is that it is nonenergy-and nonagriculturally-based, at least in the traditional sense. What little investments we've seen within the historically strong industries of energy and agriculture in this state have been in "value-added" manufacturing (e.g., commodity processing). Diversification is well under way within the Manufacturing Subsector as well.

The 1st quarter began weak, with industrial production and factory orders down, and a report that U.S. manufacturers' overseas investments rose sharply last year, up 20 percent from 1988, which was up 18 percent from 1987. The pace, the report revealed, has continued through the early weeks of 1990. The European Community and Canada were our favorite targets. It appears all this "Japan Bashing" about "buying up America" is hypocritical. Evidently, we are playing the same game, only in a different location! Industrial prospects appeared to be improving somewhat toward the close of the 1st quarter nationally; the trend was the same in Oklahoma. As mentioned previously, employment continues to rise, albeit slowly, and the ODOC reported a 11.1 percent rise in planned investment in Oklahoma during the 1st quarter of 1990. If all the investment comes to fruition, close to

1,700 new jobs would be created, over 60 percent from internal expansions. As the auto industry continues its slow recovery and businesses continue their investments in new plant and equipment, productivity gains and quality products will make us more competitive internationally. Without such investments, further declines could be expected for the remainder of the year.

## Construction

The Construction Subsector posted a 0.8 percent increase over last year's level. While up, don't be misled. The construction and real estate industries within this state remain depressed. Quarterly gains within this Subsector tend to reflect last year's weaknesses more than the current quarter's strength. Gains were made both residentially and nonresidentially in the 4th quarter, but those 4th quarter levels remain 28 percent and 15 percent, respectively, below 1985 levels. The Oklahoma construction and real estate industry is witnessing better times, ... but, then all things are relative!

Interest rates trended ever so slightly downward in the 4th quarter, but housing starts ended the year at their lowest level since 1982, our last recession year. In addition to a poor showing in housing starts, new home sales posted their worst record since 1984, with only 650,000 units sold last year. At year's end, real estate pundits were agonizing over the poor performance, but were calling for lower mortgage rates in 1990 to help spur both construction and sales. Unfortunately, 30 year fixed mortgages are now above 10.5 percent in most areas. How has that affected construction and sales? Housing starts nationwide fell 9.3 percent in March, the second monthly drop and the steepest in more than a year. The *Wall Street Journal* ran an article on how builders and home sellers, burdened by an overbuilt and slower market, are offering perks ("giveaways") to sell their properties. Throwing in equipment that used to be "optional extras," arranging for lower interest rates, paying all or part of the closing costs and points are just a few of the measures. We in Oklahoma became accustomed to those giveaways several years ago. While they are still in practice, our market has solidified enough that such giveaways are not as prevalent. Which is a nice way of saying things are not as weak as they once were.

While home sales were weak closing out the 4th quarter, they have picked up in the 1st quarter of 1990, despite the rise in mortgage rates. Oklahoma City's home sales total for the 1st quarter 1990 (1,823) was 4.4 percent above last year's level, while Tulsa posted a 21.7 percent increase over last year's levels. Oklahoma City, with the nation's second lowest median resale price of existing homes, finished the 1st quarter with an average value of $61,025, compared to Tulsa's $72,627. Obviously, both municipalities market their housing affordability as a competitive advantage. Compared to the $180,000-$260,000 priced homes in many of the east and west coast metros, Oklahoma has a real "bottom-line" advantage in the housing area.

Actually, its nonresidential values are equally impressive, relatively speaking. The low levels of new construction in nearly every real estate market over the past 4+ years has been a long term boon to the market. While vacancy rates remain stubbornly high in office, retail, and industrial markets, rental rates and property values have stabilized, and in some markets have actually risen. Calls for more A Class office space, in both metropolitan markets, combined with the recent trend toward refurbishment of existing space, has improved the overall attractability of the market. According to Price, Edwards, Henderson, office vacancy rates citywide have fallen to 27 percent. For those of you unfamiliar with our local market, you might wonder how you can FALL to such a high level, but we, like many southwestern cities, have weathered the +30 percent office market. The Tulsa market has seen similar types of improvement, with similar types of vacancy rates (28-29 percent). Obviously, neither market is in desperate need for additional space, unless it's in the Class A area, which have the highest occupancy and rental rates of all. I have been pushing the "Purchase and Refurbish" Policy for the past 4-5 years; I think I'm safe in pushing for future investment to remain in that arena for another 4-5 years.

While there is little enjoyment in hearing that other cities and states are going through what we've been through, it is interesting to find out how little investors and lenders learn from Texas, Oklahoma and Arizona. The *Wall Street Journal* ran an article recently over how the "spate of overbuilding" has forced developers to cut rent; where a local real estate manager was quoted as saying: "I don't think any prudent developer would have built any of these buildings had we known then what we know now." The place in question: *Florida*, a state that grew 30.1 percent during the decade of the 1980s. The law of "Supply/Demand Imbalance" exists universally. The nation's third largest real estate market (after California and Texas) is drying up. The RTC and the FDIC may have yet another "problem state" on their hands.

## Consumer Demand

The Consumer Demand Subsector posed a 0.7 percent increase in the 4th quarter, slightly less than I had anticipated, but much better than past 4th quarter trends. State sales tax collections were up a seasonally- and inflation-adjusted 2.9 percent for the 4th quarter, and a similar gain can be expected in the 1st quarter of 1990. Both General Merchandise and Apparel Tax Collections were up for the quarter, offsetting the weakness seen in the durable side of the economy (autos, in particular). In the metros, the picture was mixed. Oklahoma City actually posted a 1 percent decline, while Tulsa's tax collections rose 1.8 percent. Total retail trade, which includes gas and auto sales, was down from last year in both metros, with Tulsa

showing the smallest decline. As I have stated in this space before, without adjustments for a national inflation rate, nearly all of the local data would be positive. Given our relatively low cost of living and levels of inflation, the picture truly is much brighter than the data suggests.

Nationally, the consumer keeps truckin' on. Consumer confidence surveys, the Conference Board's in particular, continue to suggest a cautious but growing sentiment on the part of the consumer. Since consumer spending represents 62-67 percent of GNP (depending upon the month in question), our attitudes and spending habits control the direction in which the economy is headed, despite what us "expert economists" might think. March's survey expanded 3.5 points and was described by the Conference Board as "the first significant improvement in five months." With March's retail sales coming out "better than expected" and both consumer spending and personal income up in March, the 1st quarter should end on a very strong note. In fact, the preliminary GNP number for the 1st quarter showed a 2.1 percent annualized growth rate, almost double the 4th quarter rate. The primary contributor: consumer spending.

Trends have been even stronger here in Oklahoma. While January's retail trade levels jumped only 1.5 percent over 1989's value (led by the non-durable category), state and metropolitan sales tax collections have been posting some very sizeable gains over last year. The state sales tax, which makes up nearly 30 percent of the general revenue fund, has posted gains above a year ago for 11 consecutive months; 11 months does a trend make! Sales tax collections were up 7.9 percent in January and 6.1 percent in February. The March numbers are expected to be equally impressive. Even adjusted for inflation, the numbers remain positive and the trend remains consistent. The City of Tulsa's tax collections posted 13.4 percent and 13.3 percent increases, respectively. Oklahoma City's tax collections were up 55.6 percent and 49.2 percent, *but*, 37.5 percent of that gain is due to a local sales tax increase from 2 cents to 2.75 cents. Still the 1st quarter gains were 18.1 percent and 11.7 percent. Thus, the state's consumers, nearly fully employed and working at slightly higher wages, continue to demonstrate the type of confidence witnessed at the national level. So often, we have found ourselves running counter-cyclically with the nation. As with employment and personal income trends, the Oklahoma consumer has become a mimic of national patterns.

How about the 2nd quarter? Despite the debt and increased savings rate of Americans, at least one analyst (Lacy Hunt) is optimistic about the 2nd quarter. First, the Census Bureau has hired 500,000 people to take the 1990 census. Given the poor rate of returns in many metropolitan areas, those workers may be working even longer than originally planned. Secondly, the minimum wage rose 13.5 percent, which will affect both part time and hourly workers. Hunt calculates that upwards of 14 million Americans "will get a 5-6 percent pay boost in the second quarter." While that should be healthy for consumer spending, the jury is out on what impact that will have on inflation. The 1st quarter numbers, up 5.2 percent from 1st quarter 1989, are higher than desired but explainable (weather and oil). But labor cost increases do not reflect one-time shocks to the system; they have staying power. Benefits, including Social Security, were the primary culprits in the 1st quarter. But, then it seems anymore that "it's always something..."

## General

The General Subsector posted a sizeable 5.9 percent increase from last year, led primarily by growth in Services Employment, personal income, overall Wage & Salary Employment, and a declining unemployment rate. Only bankruptcies produced a negative result among the six indicators, rising 9.7 percent from the 4th quarter of 1988. For many years, personal income growth was flat and W&S Employment was declining in our year-over-year comparisons. For the past couple years, both indicators have been moving in concert with one another, and at stronger and stronger rates of growth. We're not about to surpass Nevada, Hawaii, and Delaware in terms of personal income growth, but our growth rates continue to approach the national average. And, as reported recently by State Policy Reports, Oklahoma ranked ninth nationally in terms of a budget balance as a percentage of spending. With a budget balance of 10.6 percent and the national average at 3 percent, both economic growth and fiscal responsibility are contributing to a much brighter picture in Oklahoma.

The 4th quarter ended on a sour note, even though the GNP number was revised upward twice. Even the upward revisions only got us to a 1.1 percent annualized growth rate for the quarter, and a yearly rate of 2.97 percent, the weakest since the recessionary 1980-82 period. The trade deficit and the amount of unprotected debt were moving inversely to one another, with the latter moving much more rapidly than the former. While the savings rate continued to rise and the unemployment rate remained stable at 5.2 percent, the slumping domestic auto industry and inflation had most economists doing their best Paul Revere — "a recession is coming, a recession is coming." Even today, with the 2nd quarter already under way and the 1st quarter GNP number at 2.1 percent, the cries are still heard. In fact, Sindlinger and Co. has declared that one already under way, at least in 41 of the 48 continguous states. No, Oklahoma is not one of the "lucky seven." From their analysis, high household debt ("negative household liquidity") is the culprit. High debt lessens both our desire and ability to buy. If retailers aren't selling, what can the manufacturer do?

For every Sindlinger, there are a million households that obviously are not a part of their survey. That statement is not meant to defame or

denounce the Sindlinger findings. But, almost 3 million jobs were created in 1989 alone, which puts much more money into the pockets of the consumer. And with the NAPM survey results out for April, showing an index value of 50.2 percent (above the 50 percent mark for the first time in 11 months), concerns are not for a recession but an "overheating." I still have trouble talking about an economy "overheating" at 2.1 percent, but, then *Everything is Relative!* There is no ignoring the problems of debt, be they governmental, institutional, or household. However, given the increasing savings rate and "borderless world" in which we now live, debt servicing does appear manageable.

The internationalization of our national and local economies has skewed many theories and statistics to the point that they may no longer be relevant, or, at least, signify what they once did. For example, domestic capacity utilization rates are not as reliable an indicator as they were five years ago because so much of U.S.-based production has been outsourced or lost to foreign countries and locations. Recent political and economic events in the Soviet Union and its Communist-Bloc Satellite countries suggest that internationalization will continue to creep forward, encompassing (much like Hawaii's recent volcanic activity) more and more of the world. German reunification, increased U.S. and Japanese investment in Western Europe, EC 92 and the desire of another six countries to join the EC are economic events that portend further globalization. Today, economic power is more important than military power, hence the success of Germany and Japan. Opportunities abound as barriers diminish. The U.S and Oklahoma must be able to compete for those new market niches.

Closer to home, the Canada-U.S. Free Trade Agreement is being implemented at a much faster pace than originally intended. Furthermore, there are discussions currently underway with Mexico that could result in a "North American Free Trade Area." Since Canada and Mexico represent our first and third largest export markets, and we buy approximately 75 percent of Mexico's exports, such an agreement seems logical. There's even a conference on Joint Ventures and Business Opportunities in the Soviet Union planned for this spring, so, obviously, the world is opening up. As long as capital can (and does) move freely to those countries and businesses yielding the greatest rates of return, the fear of regional trading areas seems to be unfounded. Our concerns should not be that these events are happening, but how we can best compete for the pent up demand. Oklahoma must position itself to serve those markets, and to do so, its products and services must be of such quality as to outperform its competitors. The Oklahoma International Export Services (at the ODOC) is in business to help Oklahoma exporters better market those products and services. Programs like OIES are valuable only when used. If you're an exporter or feel now is the time, contact them. We must use every source available to economically survive the 90's.

## Agriculture

The Agricultural Subsector declined 0.7 percent, the first decline in over three years. Wheat and beef prices fell from both the previous quarter and the same quarter last year. Their declines from last year — -2.8 percent and -0.2 — were not significant, and, in the case of wheat, not surprising. While both commodities ended the year on a negative side, relative to last year, 4th quarter price levels for each commodity remain positive when compared to 4th quarter values back as far as 1985, so this softness is recent. Beginning with the 1st quarter 1990, the GBI will include a new commodity — Sorghum — thus expanding this Subsector to three variables.

Mother Nature (AKA the weather) has been doing a number on the nerves and pocketbooks of Oklahoma farmers. Late December produced a severe freeze (two consecutive days of below 0) and rainfall amounts prior to that freeze

According to the U.S. Agriculture Department, 57 million acres of wheat were seeded for harvest this coming spring, up 3 percent from last year, but less than most analysts expected. After two years of drought and declining inventories, most of the "experts" expected a larger planting. With this limited rise, stockpiles probably won't rebound as quickly as expected. From a price stand, that is probably a very good sign. While stockpiles held firm at 1.42 billion bushels at year end 1989, that represented a 17 percent drop from the previous year. With more acres planted and higher yields forecasted, a large harvest is expected and the experts may yet turn out to be correct. Through the 1st quarter 1990, Oklahoma wheat prices are 8.8 percent below last year's prices, in current dollar terms, but off 13.4 percent in inflation-adjusted terms. With the World Agricultural Outlook Board forecasting a 3 percent decline in U.S. wheat exports in 1990, don't expect wheat to positively impact this Subsector in the 1st quarter, or, perhaps, for the rest of the year.

Beef has not been impacted as negatively by Mother Nature and by international competition as has wheat. Cash receipts for livestock in Oklahoma last year were up 6.3 percent. That has helped push cattle inventories up both nationally (3 percent) and in Oklahoma (7 percent). If demand for that increased production is weak, prices should fall. Through the 1st quarter, beef prices are up 1 percent in current dollar terms, meaning not much. Despite the weak numbers, the U.S. beef industry calculates high consumer demand and tighter cattle supplies through mid-1991. That combination should yield both higher prices and profits. Since Oklahoma ranks in the top five nationally in beef production, with close to 60 percent of our agricultural income coming from this industry, one has to feel optimistic about the industry for the remainder of this year.

As usual, weather, economics, and politics control the agricultural destiny of this country and state. While the

Bush Administration is formulating a new farm bill and international trade reform, politics and subsidies are deeply ingrained in the process. When FDR signed the first farm subsidy law in 1933, he said it would be temporary. He felt that the government had no business propping up prices by paying farmers to hold back their harvests. Fifty seven years later, agricultural subsidies "are as much a part of American agriculture as the sun and rain, and tremendously expensive as well." Crop subsidies totalled $133.5 billion during the last decade, most of that coming after 1985. In 1989, about 86 percent of U.S. wheat, cotton, corn, and rice farmers were enrolled in federal crop programs at a cost of $10.5 billion. Will it end? Once again, the internationalization of another industry plays a big role in the answer to that. While the Administration has proposed worldwide elimination of trade-distorting farm policies in GATT talks, they do not want "premature" cuts in U.S. subsidies. Getting everybody to eliminate trade-distortive programs simultaneously is the trick. Look for the 1985 Farm Bill to stay pretty much in tact.

## Financial

The Financial Subsector suffered another decline in the 4th quarter, down 5.9 percent from last year's level. While the net income figures for Oklahoma's two largest publicly traded banking institutions posted a slight improvement from last year (+0.7 percent), the thrift situation, at least in terms of lending, continues to flounder. S&L loan closings and commitments were off 6.6 percent and 18.4 percent, respectively. Fourth quarter net income figures for Oklahoma's came in at a negative $28.2 million, $3 million worse than 4th quarter 1988's loss. The only silver lining to the data is, if you eliminate the regulator-controlled institutions (14 in all), the remaining independent institutions (24 in all) posted a positive $4 million net income result. When the data (environment) has been as bad as it's been within this industry for as long as it's been, one looks for those few bright spots of hope. With little lending, poor performance, and a very uncertain future, thrift management is not a highly desirous profession to hold or seek. One other bright spot: the RTC has opened up an office in Tulsa, with the expectation of hiring 180 people. While we all hope these jobs are temporary, the definition of "temporary" in this case may utilize the term "years" instead of "months"!

Nationally, thrifts took a real battering. For the Year 1989, almost $74 billion was withdrawn from the thrift system. Not only was that a record, but the closest year to last year was 1981, when the outflow reached $25.4 billion due to competing money market mutual funds at interest rates over 20 percent. The outflow last year wasn't due to competition, but to security. The problem of insolvent thrifts offering higher interest rates to attract deposits has apparently been remedied by FIRREA. That should certainly help those solvent thrifts which were forced to raise their interest rates just to be competitive.

Unfortunately, the major problems associated with thrifts still exist. While FIRREA may have stopped some of the bleeding, it has also introduced something that is equally devastating — uncertainty. At the end of March, 1990, the RTC had over 30,000 properties valued at almost $140 billion on its inventory list. That list was expected to boom as more and more thrifts are "resolved." To date, not one thrift has been resolved in Oklahoma, so the properties we are now seeing for purchase in our state have come from resolved institutions from outside this state. Is there any wonder why both banks and thrifts are uncertain about their fates, whether they are currently solvent or not! "Maximizing net present value of return" and "minimizing the impact on local financial and real estate markets" are phrases that all local property owners are hopeful that the RTC and the FDIC can achieve.

The banking environment is "relatively" healthy (relative to the thrifts). In fact, Oklahoma banks reported a profit in 1989 (+$133 million), their highest in six years! In the 4th quarter, the profit was $25 million compared to a 4th quarter 1988 loss $3 million. With losses totalling over $310 million from 1985-87, and a "break-even" year in 1988, one can cautiously state that Oklahoma's banking environment is healthy. In fact, the return on assets nationally and in Oklahoma was identical in 1989 at 0.52 percent. Nothing to write home about, but given four years of flat to declining net income, we'll take it! While the net income numbers are improving, Oklahoma still ranked 6th in the nation in terms of the percentage of non-performing loans. What is most interesting, though, is that three of the states above Oklahoma (New York, Connecticut, Massachusetts) are from the Northeast. Arizona and Texas were the other two.

The economic conditions and the recent credit squeeze have hampered lending opportunities in this state, as well as others. As bankers work through the negative numbers and become more familiar with lending in nonenergy and nonagricultural areas of the economy, investments should return to Oklahoma businesses and not outside securities. With loan-to-deposit ratios still at or below 50 percent at most institutions, progress is obviously slow. But with new management, healthier bottom lines, and renewed confidence in the Oklahoma economy, banking will remain the financial sector of greatest potential growth. It takes capital to finance growth; apparently, more and more banks within Oklahoma have the capital.

## Conclusion

The Oklahoma economy weakened in the 4th quarter, as it did nationally. While that is neither newsworthy nor positive to most, I find it significant. Significant in that Oklahoma's economy truly is becming more cyclical with the national economy. The counter-cyclical, boom-bust environment of the past 30-50 years may, in fact, have ended. While the land and

resources are still here, the investment and the investment environment needed to finance that "commodity-based" past are not. The investments of the late 1980s and today are in non-traditional industries, at least for Oklahoma — Services and noncommodity-based manufacturing.

Marquardt, the California-based aerospace and defense contractor broke ground in Lawton in February. One hundred jobs are expected at the site before year-end, with up to 1,500 by 1993. Aviation remains strong in Tulsa, especially since American Airlines has been encouraging its suppliers to move closer to its maintenance facility. With Blue Bell Creameries setting up their first manufacturing plant outside their Texas headquarters in their 83 year history and recent attractees (State Farm & Kimberly Clark) singing Tulsa's praises, Oklahoma's second largest metro continues to post impressive economic gains. Oklahoma City, despite its heavy dependence upon Government (+24 percent of total W&S employment), has seen an increase of 25,000 private sector jobs in the past two years alone, with nearly all of that gain coming from small business. While Oklahoma's governmental composition remains high relative to the national average (22.3 percent versus 16.3 percent), private sector growth has been responsible for the majority of this state's growth since the 1986 "energy crash."

The 1st quarter 1990 GBI numbers, like the preliminary GNP number nationally, should be up, but only slightly so. While our economic base continues to diversify, the road to economic diversification is rocky. The passage of the 5 Year Strategic Economic Development plan in 1988 resulted in an "A" for Policy from the Corporation for Enterprise Development (CED). That was the first "A" this state has received since CED began their economic development report card for the states in 1986. While our scores for economic performance, business vitality, and economic capacity remain weak, the state has a "business plan" to present to domestic and international financial markets. No business can attract capital without one; nor can states. In fact, Tulsa just recently completed its first annual assessment of their 5 Year Plan, and Oklahoma City is currently implementing their recently adopted 5 Year Strategic Plan.

With plans adopted, responsibilities assigned, and implementation underway, Oklahoma and its major metropolitan areas are better positioned than ever to attract the investment capital necessary to grow economically. With the passage of a major educational reform bill, signed into law by the Governor in late April, perhaps Oklahoma will earn several other "A's" from CED, as those long-term investments result in infrastructure and economic improvements in the years ahead. After all, investments in infrastructure (human and physical) *attract* investments in industry (expanded, attracted, or home-grown). Outside investors are leery to invest where local residents are reluctant to do so first. Without "equity" investment, neither external confidence nor capital for internal economic growth will appear. Or, to paraphrase the oft-quoted line from the smash hit "Field of Dreams:" *If you invest, they will come!!*

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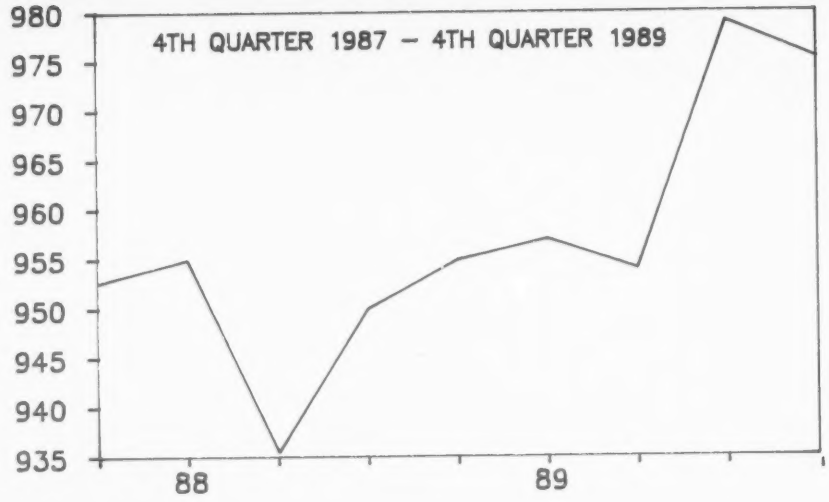
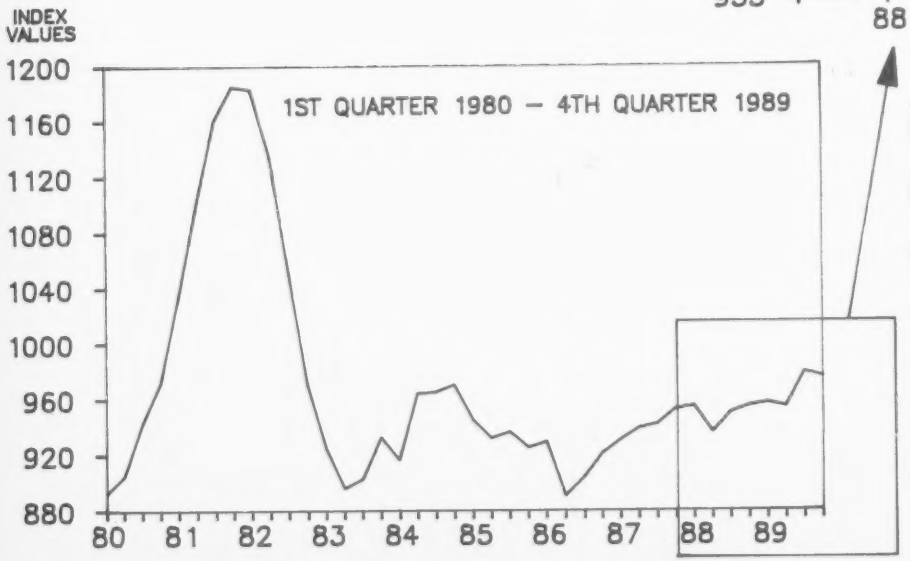
*Craig Knutson is Staff Economist for Southwestern Bell Telephone Company.*

# OKLAHOMA GENERAL BUSINESS INDEX



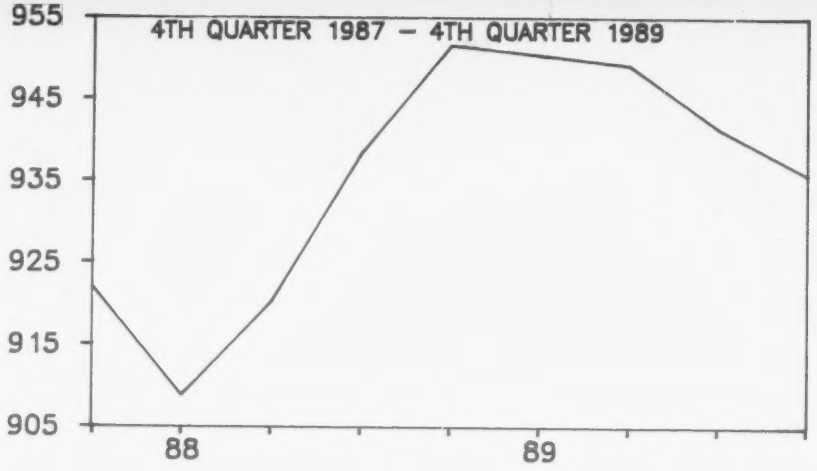

| 4Q 1989 AVERAGE VALUE | 3Q 1989 AVERAGE VALUE | % CHANGE [1] | 4Q 1988 AVERAGE VALUE | % CHANGE [1] | 4Q 1987 AVERAGE VALUE | % CHANGE [1] |
|---|---|---|---|---|---|---|
| 975.1 | 978.9 | -0.4 | 954.8 | 2.1 | 952.6 | 2.4 |

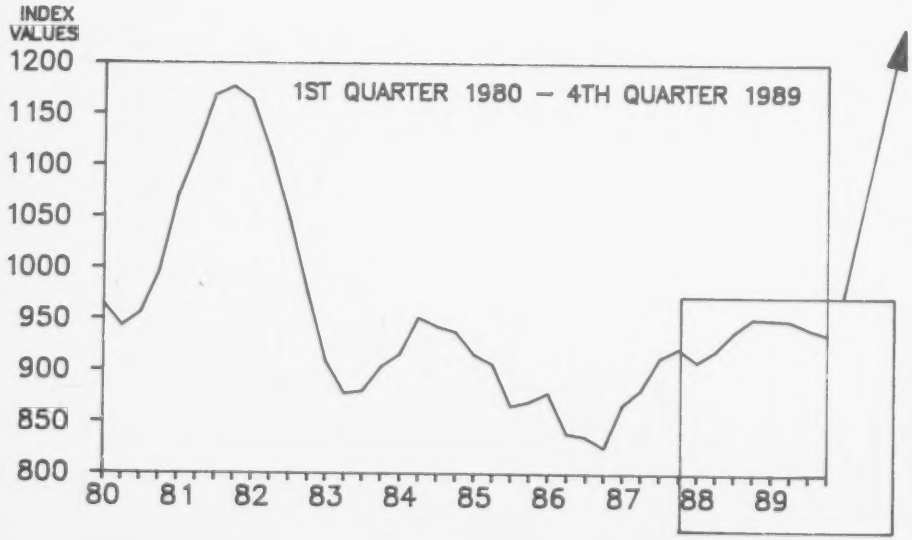
[1] COMPARED TO CURRENT QUARTER

- 1980 – 1989 GBI AVERAGE = 970
- 3rd Q 1987 – 3rd Q 1989 GBI AVERAGE = 957
- The FAA Aeronautical Center, with its $450M budget, is due to expand further in 1990. In addition to training most of the world's air traffic controllers, a new $50M facility is being built, including a state-of-the-art control simulator.
- Both Oklahoma City and Tulsa have attained National Ambient Air Quality Standards, meaning they no longer are nonattainment areas. With improved air quality, both metros have a stronger competitive advantage in their attempts to attract new industry.

SOURCE: SWBT ECONOMIC DEVELOPMENT DISTRICT/CEMR

# OKLAHOMA CITY GENERAL BUSINESS INDEX



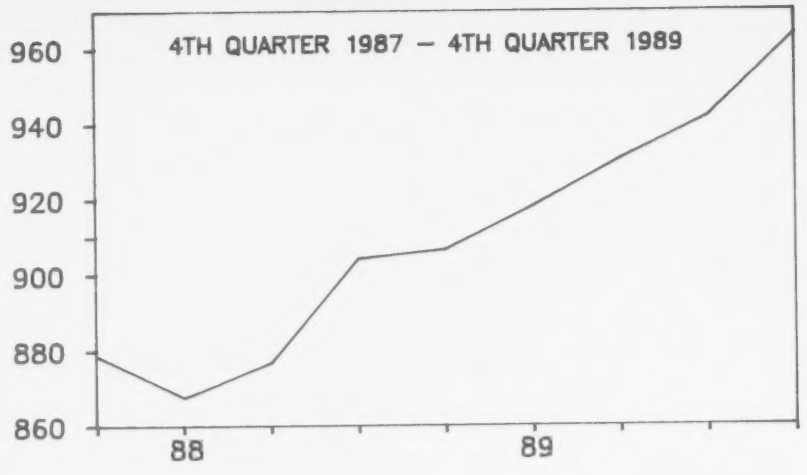

| 4Q 1989 AVERAGE VALUE | 3Q 1989 AVERAGE VALUE | % CHANGE[1] | 4Q 1988 AVERAGE VALUE | % CHANGE[1] | 4Q 1987 AVERAGE VALUE | % CHANGE[1] |
|---|---|---|---|---|---|---|
| 935.7 | 941.4 | −0.6 | 951.5 | −1.7 | 921.9 | 1.5 |

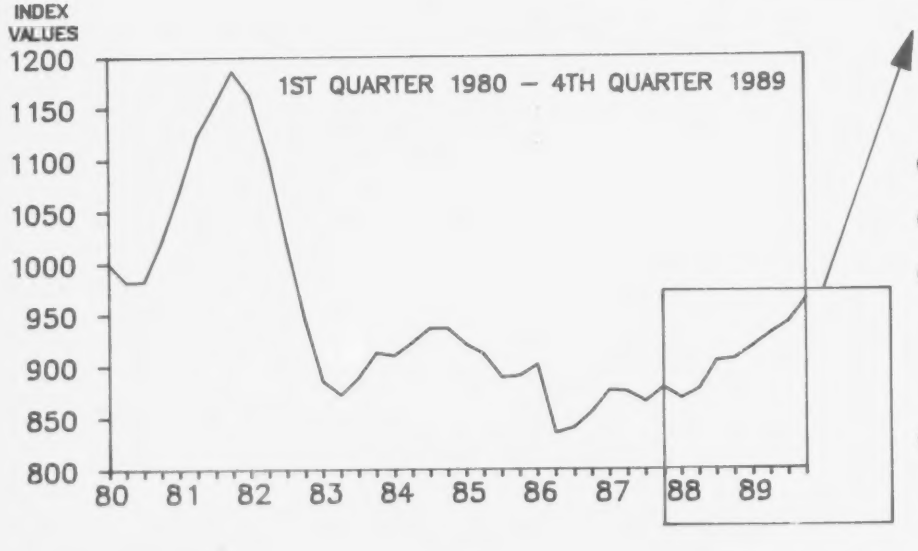
[1] COMPARED TO CURRENT QUARTER

- 1980 – 1989 GBI AVERAGE = 950
- 3rd Q 1987 – 3rd Q 1989 GBI AVERAGE = 935.2
- Local contracts with Tinker are up 25.6% from last year, as base officials stepped up efforts to involve community businesses. Most of these gains have come from seminars offered by purchasing officials in which the federal bidding process is explained and upcoming contracts outlined.
- Will Rogers Airport is seriously being considered for a $500 million United Airlines Maintenance Center that could employ 7,000 people.

SOURCE: SWBT ECONOMIC DEVELOPMENT DISTRICT/CEMR

# TULSA GENERAL BUSINESS INDEX




- 1980 – 1989 GBI AVERAGE = 946
- 3rd Q 1987 – 3rd Q 1989 GBI AVERAGE = 909.6
- The new State Farm Insurance regional office employees have spent $20 million on housing and that is expected to rise. The Tulsa office was the first new regional office for State Farm in 18 years.
- Spartan School of Aeronautics' flight school is operating at an all time high, with more than 600 students flying more than 5,000 hours per month. The flight school has grown 35% annually over the last couple of years.

| 4Q 1989 AVERAGE VALUE | 3Q 1989 AVERAGE VALUE | % CHANGE [1] | 4Q 1988 AVERAGE VALUE | % CHANGE [1] | 4Q 1987 AVERAGE VALUE | % CHANGE [1] |
|---|---|---|---|---|---|---|
| 963.4 | 941.5 | 2.3 | 906.5 | 6.3 | 878.5 | 9.7 |

[1] COMPARED TO CURRENT QUARTER

SOURCE: SWBT ECONOMIC DEVELOPMENT DISTRICT/CEMR

# *Developing Oklahoma's Potential as a Warehouse Distribution Center*

STEVE SMITH

DIVERSIFICATION HAS LONG been recognized as an essential element of long-run economic growth and stability.[1] Whether the emphasis is on enhancing one's personal financial wealth or creating an environment conducive to the expansion of economic opportunity at the city, county, regional, or state level, it is desirable to reduce the risk associated with unforeseen changes in the market by basing this growth on a myriad of activities. In 1981 communities in southeast Michigan began a program to diversify their economic base as they rebuilt after the collapse of the auto industry in the late 1970s.[2] In a similar manner, Oklahomans officially acknowledged the need to diversify their state's economic base in *Oklahoma's Strategic Economic Development Plan, 1988-1992*. These economic development plans hope to stimulate economic diversification by 1) encouraging the expansion of local businesses, 2) creating opportunities for new businesses and 3) attracting new enterprises to the area. Policy aimed at achieving the first two goals has focused on research to identify the resource needs of the growing companies and startups, and implementing an array of state and local government programs to meet these needs. Additionally, efforts have been made to eliminate any unnecessary regulatory barriers to expanding locally or starting a new business. To achieve the third goal, a targeted industry strategy has been implemented which focuses on the recruitment of companies from industries that would enjoy a profit advantage by locating in Oklahoma.[3]

Intuitively, it would appear that Oklahoma's median location coupled with the state's highway networks, air traffic routes, pipelines, and waterways which provide access to origins and destinations all over the nation, give it a significant comparative advantage as a warehousing and distribution center (WDC). This WDC hub advantage creates the potential to attract new companies to the state from a variety of industries that are transportation sensitive, and provide expansion opportunities for Oklahoma based firms.

With an awareness of the state's potential as a WDC, the 1987 session of the Oklahoma Legislature passed HB 1142, the Trucking Industry Self-Funded Research and Development Act (TISRAD). This legislation revised state tax and licensing policy on motor carriers and their equipment in an effort to generate both more state revenue and to diversify the state's economy by making it a more attractive place for motor carrier enterprise. A portion of the additional revenues are to be used to undertake research on public and private strategies to develop the state's trucking, warehousing and distribution potential.

The purpose of this article is to report on the progress of the TISRAD program. It will summarize the work completed in Phase I, with a more detailed review of the subsequent Phase II research on regulatory environment, economic development potential, and equipment productivity.

## Phase I

The initial phase of the TISRAD program had both short-term and long-term objectives. The short-term objective was to bring attention to Oklahoma's presence in the motor carrier industry by making it more profitable for companies to register their equipment in the state. This goal was achieved by permitting the carrier to "base plate" a trailer, i.e., register it in Oklahoma even though the equipment may not be in Oklahoma. The initial registration fee is $43 with a $4 fee to renew the license annually without having to physically retag the trailer. This provision offered a significant cost savings to the carrier as evidenced by

the attraction of 16,000 additional trailer registrations and an increase of 20.24 percent or $2.8 million in revenue from registrations.

The long-term goal of the legislation was to create and fund an on-going research program to assist in the development of WDC's in Oklahoma. To achieve this goal, the TISRAD committee was created to direct the state's efforts to become a WDC hub.[4] Research funding is provided through the Motor Transportation Safety, Education and Economic Development Research (SEED) Foundation by fees collected from the trailer registrations.[5]

The findings of Phase I research which focused on tax issues, economic development potential, highway management considerations and equipment productivity are given below.

*Tax Issues:*
Researchers found that Oklahoma's motor carrier tax laws are more than competitive with other states with an annual state tax cost of operating a standard tractor/trailer rig of $2,691 compared to an average cost per state of $5,000 or 86 percent higher than Oklahoma.

*Economic Development Potential:*
This research focused on the practicability of Oklahoma becoming a WDC hub by identifying target industries with the greatest probability of locating WDC facilities in Oklahoma, analyzing the decision making process for locating WDC's, and developing a cost/service simulation model. The results of these efforts provide the basis for Phase II research and will be covered in more detail later in the report.

*Highway Management Considerations:*
The requirements of the trucking industry are receiving due consideration by the strategic planning, construction and scheduling system.

The turnpike system is an asset to the development of a WDC, the rural highway system is adequate and the interstate/arterial roadways are only one-third as congested as the national average.

The current condition of bridges was not viewed as a limiting factor to developing a WDC hub.

Researchers felt that the enforcement of motor carrier regulations could be improved from both the carriers and regulators point of view through additional staffing, participation in the FNCSAP and a careful analysis of intrastate regulations.

*Equipment Productivity:*
The report recommended the increased use of special combination vehicles (SCV) be permitted in Oklahoma to determine the economic development potential of this emerging technology.[6]

## Phase II

Following the recommendations of the Phase I research team and building from their findings, Phase II research focused on three areas: 1) The impact of the regulatory environment on the site selection criteria for a WDC. 2) The Economic Development Potential of a WDC hub and 3) Oklahoma's Special Combination Vehicle Demonstration Program. This section of the report will provide a summary of the findings of this work.

### Regulatory Environment

The location decision making process is influenced by regulatory activity dealing with taxes, infrastructure, and size and weight management. To determine how Oklahoma is positioned relative to other states in these areas, Phase II research updated the data files from Phase I and evaluated the changes that had taken place.

***Taxes:*** The Truck Tax Data Base (TTDB) provides a comparison of taxes paid for a standard tractor semi-trailer rig operating at 80,000 miles per year at 80,000 pounds, for the contiguous 48 states and the District of Columbia. With nearly every state legislature in session since the completion of the Phase I TTDB, it was quite important that the TTDB be updated to reflect any tax changes that had occurred. The recent increase in several Oklahoma taxes further demonstrates the importance of continuously updating the TTDB if it is to be a useful economic development tool. Based on the findings of the Phase II, TISRAD reports Oklahoma continues to enjoy a very favorable tax advantage. Map 1 shows Oklahoma's tax level at $2,731 is far below the average for any region. In fact only three (3) states, Florida, New Hampshire, and Delaware have a lower tax burden. Map 2 shows a comparison of Oklahoma with surrounding states which have truck tax levies ranging from 40 percent to 200 percent higher. As the Phase II research team points out, Oklahoma maintains its tax advantage by "limiting its motor carrier taxes to the basic two structures of fuel and license."

Phase II research was also interested in determining the role of taxation in the location decision making process. The results of a survey taken for the Phase I report indicated that inventory taxes and state and local taxes ranked only 10th and 18th respectively out of 31 factors influencing the location decision. To pursue this question further, the Phase II research team conducted an extensive literature review on the role of taxes in the location decision making process. In conclusion, the researchers found that taxes play a subordinate role to such factors as: access to market, labor cost, transportation services, and raw material needs in choosing a region for a new location. However, it was observed that the role of taxes becomes greater as the geographic area of consideration decreases, indicating that local taxes may be a more important determinant than state taxes when making a site selection.

In summary, it appears that proximity to markets, availability to trucking services, and labor costs will continue to be the primary determining factors in choosing a geographic region for a WDC site. However, local taxes become a more important determinant to final site selection as the geographic area becomes more specific. This is especially true for service and high technology firms.

**MAP 1**

**Average Truck Operating Taxes**
**1989**

Source: Seed Foundation.

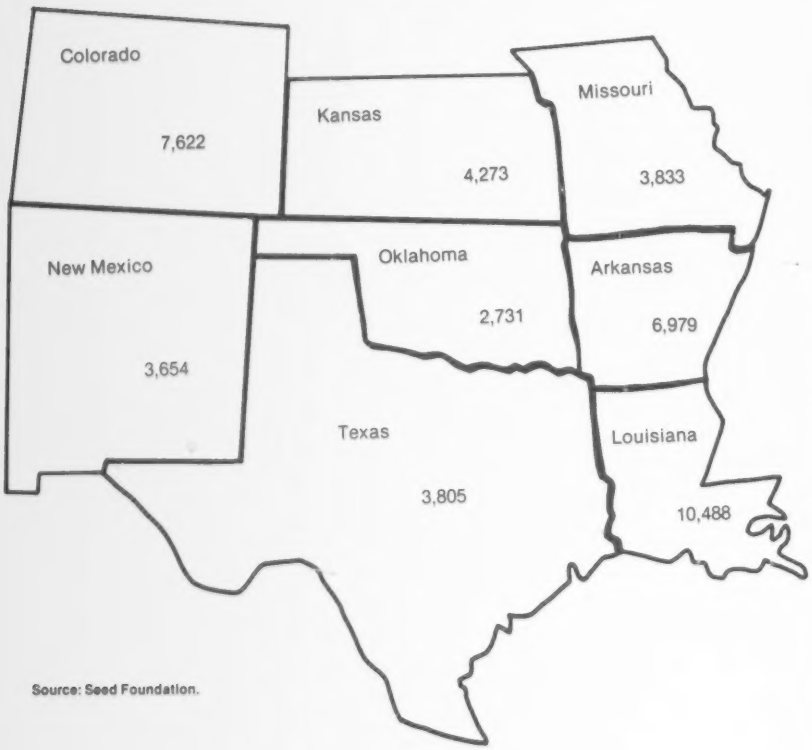
***Vehicle Record Management:*** While the state tax levy may not be a determining factor in the location decision (especially for an interstate carrier), the degree of service provided by the regulatory agency to assist the carrier in compliance with tax laws can play a pivotal role in the state being chosen for a WDC site. Companies will prefer to locate in a state where the regulatory agency has created a "user friendly" environment by making compliance predictable and straightforward for both intra and interstate operations.

In this regard, the Oklahoma Tax Commission (OTC), in cooperation with the state legislature and the Associated Motor Carriers, has implemented a program to make it as easy as possible for the interstate carrier to comply with local tax regulations. The speed, efficiency, and accuracy provided by this program has brought Oklahoma national recognition as a leader in assisting the operations of the motor carrier industry. The OTC has taken the following steps to achieve this high degree of service:

- Membership in the International Registration Plan (IRP) provides a simple one-step registration permitting the carrier to travel among the member jurisdictions while displaying a single license-plate and cab card.
- Membership in the International Fuel Tax Agreement (IFTA) is similar to the IRP in that the program allows the carrier to file with a single jurisdiction to accomplish fuel tax registration, reporting, distribution of tax, and compliance audit.
- Compliance with the recommended principles for uniform fuel tax registration and administration.
- Implementation of a one-stop operation for motor carrier tax compliance.
- Addition of exclusive record storage and introduction of new completely rewritten software to facilitate the record-keeping process.
- Introduction of "registration-only" titles.
- Assignment of a contact person for large accounts.
- Implementation of a "sales calls" approach to demonstrate to carriers that the Commission's program can make it profitable for carriers to locate in Oklahoma.

**MAP 2**

**Average Truck Operating Taxes for Selected States 1989**




Source: Seed Foundation.

The efforts of the OTC have been rewarded by a more than 30 percent increase in registrations. In 1989 more than 1,100 new interstate commercial accounts, representing 17,000 commercial tractors and trailers, registered in Oklahoma. The Phillips Petroleum Company has registered its fleet in Oklahoma after receiving information on the benefits of doing so from the OTC.

***Highway Management:*** This segment of Phase II research continued the work begun in Phase I on the adequacy of the state highway system to handle the hub center concept. The research team concluded that the condition and management of Oklahoma's highway infrastructure would be an asset to the development of the WDC hub concept.

***Vehicle Size and Weight Regulation:*** The initial TISRAD research created a computerized size and weight (SW) data base. The SW data provides immediate comparison of size, weight and mileage elements by state for the continental U.S. and the District of Columbia. The Phase II update of the SW data base includes changes as of September 1, 1989. An evaluation of these data indicate that Oklahoma is in line with national trends in size and weight policy.

## Economic Development Potential

The Phase I research team concluded that Oklahoma has a comparative advantage in developing a WDC hub. The findings of this work further indicate that distribution centers located in Oklahoma City and Tulsa have a transportation cost and service time advantage over competing cities in the region when shipping to western states, while the operation costs of a WDC facility in Oklahoma is in line with other states. Research on the importance of economic and environmental factors in the WDC location decision found that proximity to markets, availability to trucking services and labor cost in the area rank 1, 2 and 3 respectively. Furthermore, Oklahoma's central location, excellent trucking services, and low cost labor should place the state at the top of any list of potential WDC sites. These results indicate that Oklahoma's success in becoming a WDC hub may be determined primarily by its ability to market the advantages of locating in the state.

To maximize the effectiveness of this marketing effort, Phase I work created a list of industries as having regional or national WDC location potential. This list was then disaggregated into high growth and low growth categories. These targeted industries provide an excellent starting point for a marketing program to develop WDC activity to the state.

Phase II research complements Phase I work by creating specific tools that economic development professionals can use to demonstrate the advantage of locating a WDC in Oklahoma. These tools are a transportation cost and service time data base (TTRACS), a site specific cost data base (TSITE), and a traffic flow data base.

The TTRACS data base provides an estimate of the shipping cost and service time from six alternative WDC locations to six market areas under eight alternative shipment/rate scenarios for fifty 4-digit SIC classifications. (See Table 1) The fifty SIC classifications were chosen on the basis of the target industry research conducted during Phase I of this program and by other economic development programs in the state. The TTRACS transportation cost comparisons may be used to identify market areas for which Oklahoma City or Tulsa have a cost advantage or to select which freight type/rate combination is most advantageous for the firm locating in these Oklahoma cities.

A sample of the data available from TTRACS is shown in Table 2. For example, Oklahoma City has a

transportation cost advantage for the distribution of all truck tonnage LTL shipments in SIC industries 3721 and 3724 (aircraft and aircraft engines and parts) under all market conditions except national, and Oklahoma enjoys lower distribution cost for most of the SIC industries listed if the market area is the western half of the U.S.

Service time estimates are also available from TTRACS data for each of the 50 SIC industries by shipment type from six locations to six market areas. (See Table 3) For example, TTRACS shows that meat packing plants (SIC 2011) shipping from Oklahoma City to the west market area have a shorter service time for all shipment types than any other location, except private truck WDC shippers from Denver.

A site specific cost simulation model (TSITE) has also been developed to estimate the cost of a WDC of any size and labor mix located in any of the following locations: Oklahoma City, Tulsa, Kansas City, Dallas/Ft. Worth, Denver and Memphis. The program will compute the cost for each site once the major cost factors of labor, energy, and space, along with the labor mix are specified.

Traffic flow tables for each of the 50 SICS are also available from SEED.

**TABLE 1**

**Market Area, Shipment/Rate, SIC Descriptions, Site Locations**

**Target Industry Description (1977 SIC)**

| SIC | Industry Description | Shipment Type | Rate Basis |
|---|---|---|---|
| 2011 | Meat Packing Plants | Less than Truck Load (LTL) | LTL |
| 2032 | Canned Specialties | Truck Load (TL) | TL |
| 2033 | Canned Fruits, Vegetables, Etc. | For Hire | Average |
| 2037 | Frozen Fruit, Veg. or Juice | Private | TL |
| 2038 | Frozen Specialties | All Truck | LTL |
| 2044 | Rice Milling | All Truck | LTL |
| 2048 | Prepared Feed | All Modes | LTL |
| 2065 | Candy or Other Confectionery | All Modes | TL |
| 2082 | Malt Beverages | | |
| 2654 | Sanitary Food Containers | | |
| 2621 | Periodicals | | |
| 2731 | Books | **Site Locations** | |
| 2741 | Misc. Publishing | | |
| 2771 | Greeting Card Publishing | Oklahoma City, Tulsa, Dallas, Denver, Kansas City, Memphis | |
| 2821 | Plastic Materials | | |
| 2831 | Biological Products | | |
| 2841 | Soap or Other Detergents | | |
| 2842 | Specialty Cleaning Prep. | **Market Areas** | |
| 2844 | Cosmetics, Perfumes, Etc. | | |
| 2891 | Adhesives and Sealants | West South Central: OK, TX, LA, AZ | |
| 3011 | Tires or Inner Tubes | South Central: OK, TX, LA, AR, MD, KS, CO, NM | |
| 3041 | Rub or Plas Hose or Belting | Mid America: OK, TX, LA, AR, MO, KS, CO, NM, IA, MN, ND, SD, NB | |
| 3069 | Fabricated Rubber Products | Mid West: OK, TX, LA, AR, MO, KS, CO, NM, IA, MN, ND, SD, NE, MT, WY, ID, UT, NV | |
| 3070 | Misc. Plastic Products | West: OK, TX, LA, AR, MO, KS, CO, NM, IA, MN, ND, SD, NE, MT, WY, ID, AZ, NV, WA, OR, CA, ID | |
| 3229 | Misc. Glassware, Blown or Pressed | | |
| 3452 | Bolts, Nuts, Screws, Etc. | | |
| 3530 | Constr. Machinery or Equipment | | |
| 3561 | Pumps and Pumping Equipment | | |
| 3573 | Electronic Computing Equipment | | |
| 3645 | Residential Lighting Fixtures | | |
| 3661 | Telephone or Telegraph Equipment | | |
| 3662 | Radio or TV Transmitting Equip. | | |
| 3670 | Electronic Components | | |
| 3693 | X-Ray Equipment | | |
| 3711 | Motor Vehicles | | |
| 3713 | Motor Bus or Truck Bodies | | |
| 3714 | Motor Vehicle Parts or Access. | | |
| 3721 | Aircraft | | |
| 3724 | Aircraft Engines or Parts | | |
| 3728 | Misc. Aircraft Parts | | |
| 3751 | Motorcycles, Bicycles or Parts | | |
| 3761 | Missiles or Space Vehicles | | |
| 3823 | Mech. Measuring or Control Equip. | | |
| 3825 | Electric Measuring Instruments | | |
| 3840 | Surgical, Medical or Dental Instruments | | |
| 3861 | Photographic Equip. or Supplies | | |
| 3914 | Silverware or Plated Ware | | |
| 3931 | Musical Instruments or Parts | | |
| 3944 | Games or Toys | | |
| 3949 | Sporting or Athletic Goods | | |

TABLE 2

Transportation Cost Ranking for Oklahoma City Relative to Dallas, Denver, Kansas City and Memphis for All Truck Tonnage LTL Rates for Selected Sic Codes

| SIC | National | West | Mid West | Mid America | South Central | W. South Central |
|---|---|---|---|---|---|---|
| 2011 | 3 | 1 | 1 | 1 | 2 | 2 |
| 2032 | 3 | 1 | 2 | 2 | 2 | 2 |
| 2033 | 3 | 2 | 2 | 2 | 2 | 2 |
| 2037 | 3 | 1 | 1 | 1 | 2 | 2 |
| 2038 | 3 | 1 | 1 | 1 | 2 | 2 |
| 2044 | 3 | 2 | 3 | 3 | 3 | 3 |
| 2048 | 3 | 1 | 2 | 2 | 2 | 2 |
| 2065 | 3 | 1 | 1 | 1 | 2 | 2 |
| 2082 | 3 | 1 | 1 | 1 | 2 | 2 |
| 2654 | 3 | 1 | 1 | 1 | 2 | 2 |
| 2621 | 3 | 1 | 2 | 2 | 2 | 2 |
| 2731 | 3 | 1 | 2 | 2 | 2 | 2 |
| 2741 | 3 | 2 | 2 | 2 | 2 | 2 |
| 2771 | 3 | 1 | 2 | 2 | 1 | 2 |
| 2821 | 3 | 2 | 2 | 3 | 3 | 3 |
| 2831 | 3 | 2 | 2 | 2 | 2 | 2 |
| 2841 | 3 | 1 | 1 | 1 | 2 | 2 |
| 2842 | 3 | 1 | 1 | 2 | 2 | 2 |
| 2844 | 3 | 1 | 1 | 1 | 2 | 2 |
| 2891 | 3 | 1 | 1 | 1 | 2 | 2 |
| 3011 | 3 | 1 | 1 | 2 | 2 | 2 |
| 3041 | 3 | 2 | 2 | 2 | 2 | 2 |
| 3069 | 3 | 1 | 2 | 2 | 3 | 3 |
| 3070 | 3 | 1 | 1 | 1 | 2 | 2 |
| 3229 | 3 | 1 | 1 | 2 | 2 | 2 |
| 3452 | 3 | 1 | 1 | 2 | 2 | 2 |
| 3530 | 3 | 2 | 2 | 2 | 2 | 2 |
| 3561 | 3 | 2 | 2 | 2 | 2 | 2 |
| 3573 | 3 | 2 | 2 | 2 | 2 | 2 |
| 3645 | 3 | 1 | 2 | 2 | 2 | 2 |
| 3661 | 3 | 2 | 2 | 2 | 2 | 2 |
| 3662 | 3 | 1 | 1 | 1 | 3 | 2 |
| 3670 | 3 | 1 | 1 | 2 | 2 | 2 |
| 3693 | 3 | 2 | 2 | 2 | 2 | 2 |
| 3711 | 3 | 1 | 1 | 1 | 2 | 2 |
| 3713 | 3 | 2 | 2 | 2 | 2 | 2 |
| 3714 | 3 | 1 | 2 | 2 | 3 | 2 |
| 3721 | 2 | 1 | 1 | 1 | 1 | 1 |
| 3724 | 2 | 1 | 1 | 1 | 1 | 1 |
| 3728 | 2 | 1 | 1 | 2 | 3 | 2 |
| 3751 | 3 | 1 | 1 | 1 | 2 | 2 |
| 3761 | 2 | 2 | 3 | 3 | 3 | 3 |
| 3823 | 4 | 2 | 2 | 2 | 2 | 2 |
| 3825 | 3 | 2 | 2 | 3 | 2 | 2 |
| 3840 | 3 | 1 | 1 | 1 | 2 | 2 |
| 3861 | 3 | 2 | 2 | 2 | 2 | 2 |
| 3914 | 3 | 1 | 1 | 2 | 3 | 3 |
| 3931 | 2 | 2 | 2 | 2 | 2 | 2 |
| 3944 | 3 | 1 | 2 | 2 | 2 | 2 |
| 3949 | 3 | 1 | 1 | 2 | 2 | 2 |

Source: TTRACS Data Base, SEED Foundation.

These tables contain the aggregated flow to one of 39 geographic areas in the data base or the aggregated flow from one of 39 areas. Using the traffic flow data, tables can be derived which display all of the 39 potential origins and destinations ranked by total tons shipped by truck, by type of shipment for selected SIC's. Table 4 shows the destination table for meat packing plants (SIC 2011).

Market area analysis tables have also been derived from the traffic flow data for selected SIC's. These tables show how much tonnage by type of shipment, i.e. truck load (TL), less than truck load (LTL), are destined to each market area, and the percentage of nationwide traffic flow the market represents. Table 5 shows the market area table for meat packing plants.

While the TTRAC, TSITE and traffic flow data bases permit rapid and accurate responses to inquiries about locating a WDC in Oklahoma, potentially the most valuable use for these tools is the marketing opportunities

**TABLE 3**

**Service Time Estimates for Meat Packing Plants (SIC 2011) by Site Location for Shipment Type to the West Region**

| Shipment Types | Rate Basis | Site Locations: Oklahoma City Hours | Tulsa Hours | Dallas Hours | Denver Hours | Kansas City Hours | Memphis Hours |
|---|---|---|---|---|---|---|---|
| LTL | LTL | 12.7 | 12.7 | 13.6 | 15.4 | 13.1 | 16.6 |
| TL | TL | 14.2 | 14.2 | 15.6 | 15.3 | 14.7 | 19.0 |
| FOR HIRE | AVERAGE | 14.1 | 14.1 | 15.5 | 15.3 | 14.7 | 18.9 |
| PRIVATE | TL | 16.6 | 16.6 | 17.4 | 16.4 | 19.1 | 22.4 |
| ALL TRUCK | LTL | 14.8 | 14.8 | 16.0 | 15.6 | 15.8 | 19.8 |
| ALL TRUCK | TL | 14.8 | 14.8 | 16.0 | 15.6 | 15.8 | 19.8 |
| ALL MODES | LTL | 14.7 | 14.7 | 15.8 | 16.0 | 15.9 | 19.4 |
| ALL MODES | TL | 14.7 | 14.7 | 15.8 | 16.0 | 15.9 | 19.4 |

Source: TSITE Data Base, SEED Foundation.

they create. The economic development specialist, armed with the targeted industries list, can make sales calls on companies in these industries and demonstrate to them the profit advantage of locating a WDC in Oklahoma.

Three additional research reports, to be completed in 1990, will provide additional information and tools to assist persons involved in economic development efforts to successfully develop the WDC potential of the state. These research projects are described below.

Case Studies: The objective of this work is to develop case studies of selected firms which have located WDC or plant facilities in Oklahoma to highlight the logistical advantages of locating such facilities in Oklahoma. The case studies could be used to market Oklahoma's WDC potential at professional meetings, in trade magazines, or as part of general feature articles on Oklahoma economic development. In each application, the benefits of locating in Oklahoma are demonstrated as a byproduct of producing a general information piece. The case studies will, to the degree possible, also highlight the tax advantages of locating in Oklahoma.

The firm selected for the warehousing case study was Mac Tools, a subsidiary of Stanley Works. This company represents an excellent example of a firm that has found Dallas/Fort Worth to be too expensive and relocated from that city to Oklahoma City in 1988.

**TABLE 4**

**Destination of Products - Ranked by Total Truck Tonnage**

| Destination | TL | LTL | Private | Total | Truck |
|---|---|---|---|---|---|
| California | 1,867,774 | 26,096 | 1,149,060 | 3,428,722 | 3,042,930 |
| Illinois | 1,622,746 | 25,237 | 389,218 | 2,132,976 | 2,037,201 |
| New York | 1,374,925 | 46,774 | 269,427 | 1,694,415 | 1,691,126 |
| Pennsylvania | 1,146,955 | 66,737 | 470,934 | 1,749,328 | 1,684,626 |
| Wisconsin | 594,530 | 20,566 | 998,877 | 1,625,891 | 1,613,973 |
| Ohio | 975,239 | 27,723 | 352,201 | 1,436,355 | 1,355,163 |
| Florida | 1,065,106 | 32,637 | 186,842 | 1,310,834 | 1,284,585 |
| Capital Area | 587,071 | 22,671 | 537,162 | 1,228,350 | 1,146,904 |
| Carolinas | 572,543 | 26,113 | 516,504 | 1,158,027 | 1,135,160 |
| S. New England | 648,561 | 50,997 | 146,488 | 899,209 | 846,046 |
| Minnesota | 671,941 | 29,505 | 126,515 | 839,891 | 827,961 |
| Texas South | 605,959 | 20,704 | 181,972 | 1,198,340 | 808,635 |
| Kansas | 710,824 | 12,553 | 70,788 | 863,738 | 794,165 |
| Texas East | 533,298 | 20,035 | 165,966 | 760,030 | 719,299 |
| Georgia | 474,293 | 10,958 | 185,731 | 757,105 | 670,982 |
| Dakotas | 530,610 | 7,755 | 92,744 | 631,109 | 631,109 |
| New Jersey | 520,676 | 21,292 | 77,051 | 682,290 | 619,019 |
| Tennessee | 403,867 | 13,751 | 183,831 | 638,721 | 601,449 |
| Indiana | 497,494 | 25,856 | 60,186 | 629,581 | 583,536 |
| Iowa | 500,135 | 12,413 | 65,096 | 593,415 | 577,644 |
| Colorado | 363,988 | 11,512 | 137,395 | 531,262 | 512,895 |
| Louisiana | 329,883 | 18,761 | 137,989 | 798,263 | 486,633 |
| Pacific N W | 348,970 | 5,209 | 121,993 | 640,383 | 476,172 |
| Missouri | 364,667 | 6,178 | 98,580 | 633,719 | 469,425 |
| Arizona | 290,665 | 10,491 | 138,120 | 446,439 | 439,276 |
| Michigan | 388,216 | 5,323 | 32,751 | 426,290 | 426,290 |
| Alabama | 217,098 | 13,175 | 132,813 | 376,270 | 363,086 |
| Texas West | 189,456 | 3,047 | 126,419 | 319,085 | 318,922 |
| Nebraska | 222,328 | 5,014 | 80,006 | 379,632 | 307,348 |
| Oklahoma | 210,219 | 4,643 | 55,927 | 299,064 | 270,789 |
| New Mexico | 134,011 | 4,381 | 54,786 | 193,178 | 194,178 |
| N. Mountain | 122,568 | 6,130 | 64,432 | 203,238 | 193,130 |
| Arkansas | 103,313 | 6,111 | 76,114 | 254,371 | 185,538 |
| Utah | 112,652 | 3,230 | 21,609 | 141,557 | 137,491 |
| Kentucky | 68,083 | 1,748 | 59,931 | 130,350 | 129,762 |
| Mississippi | 84,776 | 1,468 | 25,801 | 174,393 | 112,045 |
| N. New England | 68,093 | 1,952 | 38,943 | 124,654 | 108,988 |
| West Virginia | 27,640 | 1,177 | 34,566 | 63,383 | 63,383 |
| Nevada | 2,664 | 0 | 2,860 | 6,882 | 5,524 |
| Total | 19,553,837 | 649,923 | 7,667,628 | 30,400,740 | 27,871,388 |

SIC CODE: 2011

INDUSTRY: Meat Packing Plants

Source: SEED Foundation

Analysis of Targeted Industries: This project is a follow-up survey focused on the WDC targeted industries determined in the 1988 research. The 1989 surveys are more focused in terms of the respondent population and with respect to the questions asked. The goal is to develop information immediately useful for economic development policy and implementation, in contrast to the more general nature of the 1988 survey.

Economic Impact Model: The objective of this research is to develop a model that can be used by logistics consultants, academicians, and economic development officers to evaluate the economic impact of WDC and truck facilities locating or expanding in the state. These evaluations could be particularly useful in determining the feasibility of using economic incentives in the form of financing, reduced taxes, property improvements, and so on to assist in the expansion or attraction of a WDC facility. Economic development officials need to know whether the economic benefits justify such incentives.

## Equipment Productivity

Studies conducted in a number of Western states over the past 20 years have shown that the use of multitrailer configurations, referred to herein as special combination vehicles (SCVs), significantly improve the productivity of transporting goods by motor freight. The improved productivity from SCV utility translates into large fuel savings; a reduction in air pollution; improved highway safety; and, ultimately, lower prices of consumer goods.

While these benefits are enjoyed by everyone, the Phase I report on equipment productivity concluded that expanding the use of SCVs in Oklahoma could enhance current efforts to attract transportation sensitive industry to the state. Making motor freight transportation more efficient and, therefore, less costly within the state creates new interest and also works to the advantage of companies presently located in Oklahoma.

**TABLE 5**

**Percentage of National Market Ratios**

| | Tons | | | | |
|---|---|---|---|---|---|
| **Regional Definition** | **TL** | **LTL** | **Private** | **Total** | **Truck** |
| West South Central | 1,972,128<br>10.09% | 73,301<br>11.28% | 744,387<br>9.71% | 3,629,153<br>11.94% | 2,789,816<br>10.01% |
| South Central | 3,545,618<br>18.13% | 107,925<br>16.61% | 1,105,936<br>14.42% | 5,851,050<br>19.25% | 4,759,479<br>17.08% |
| Mid America | 5,470,632<br>27.98% | 162,612<br>25.02% | 1,470,297<br>19.18% | 8,295,097<br>27.19% | 7,103,541<br>25.49% |
| Mid West | 5,999,181<br>30.68% | 182,463<br>28.07% | 1,697,318<br>22.14% | 9,093,213<br>29.91% | 7,878,962<br>28.27% |
| Greater Midland Plains | 6,973,438<br>35.66% | 187,407<br>28.84% | 2,133,980<br>27.83% | 10,691,771<br>35.17% | 9,294,825<br>33.35% |
| West | 8,215,925<br>42.02% | 213,768<br>32.89% | 2,968,371<br>38.71% | 13,162,318<br>43.30% | 11,398,064<br>40.90% |
| National Total | 19,553,837<br>100.00% | 649,923<br>100.00% | 7,667,628<br>100.00% | 30,400,740<br>100.00% | 27,871,388<br>100.00% |

SIC CODE: 2011
Industry: Meat Packing Plants
Source: SEED Foundation

To verify the feasibility of operating SCVs in Oklahoma and to document their potential economic impact, the SEED Foundation Study recommended that a two-year demonstration program be undertaken. Acting on this recommendation, the TISRAD Committee, working in conjunction with the State Legislature, the Oklahoma Department of Transportation (ODOT), the Department of Public Safety (DPS), the Oklahoma Tax Commission, the Corporation Commission, and representatives from the motor carrier industry, approved the implementation of a two-year SCV demonstration program to begin on July 1, 1989. Under this program, carriers would be encouraged to apply for special permits to use SCVs, subject to the specific rules and guidelines which had been established for the program.

Although the research design and the administrative organization is in place and two applications have been approved, the demonstration program at this writing cannot yet get underway. The program has been placed on "hold" until a clarification is obtained of the legal basis for Oklahoma's authority to issue permits for divisible System. Assuming a favorable resolution of this issue, plans have been made to convene a special meeting with interested carriers to explain how the demonstration program is organized. As necessary, plans also include visits with other carriers individually to attract as many additional participants as possible to the program.

## Summary

The TISRAD Hub Center Project has attempted to create a new source of economic growth for Oklahoma by implementing a strategy to develop the state's potential as a WDC hub center. The initial phase of this program brought national attention to the state when a permanent "Base Plate" mechanism was established that made it more profitable for carriers to register their equipment in Oklahoma. In addition to this positive exposure to the motor carrier industry, the "Base Plate" program raised revenue collected from trailer registration by 20 percent.

The TISRAD Act also provided funding to conduct research specifically related to the motor carrier industry. Phase I of this research established that

Oklahoma does enjoy a comparative advantage as a WDC hub and identified targeted industries that are likely to locate a WDC in the state. In addition, this research showed that the Oklahoma infrastructure and enforcement system have the capacity to support a WDC hub and that the state's truck tax costs are competitive.

Building on this work, Phase II projects focused on providing economic development specialists in the state with the tools they need to actively market Oklahoma's potential as a WDC hub. To achieve this goal, Phase II research developed several computerized data bases that could be used to demonstrate why it is more profitable to locate a WDC in Oklahoma. The truck tax data base showed that in 1989 Oklahoma's taxes are the fourth lowest in the continental U.S., and that the regional average is 94 percent higher. This research was, however, careful to point out that local taxes may play a bigger role in site location than state taxes.

An analysis of the Oklahoma Tax Commission's ability to serve adequately the motor carrier industry demonstrated that the OTC is a national leader in implementing a system of total service to the interstate motor carrier. The OTC program is so effective that they have been able to attract new large fleet customers to the state by marketing their service capability through brochures, trade-shows, and even making personal sales calls.

A review of the Oklahoma infrastructure concluded, "it can be said that Oklahoma is very well positioned from the standpoint of the condition and management of its highway infrastructure to accommodate the transport element of the WDC hub center concept."

The development of a nationwide size and weight data base revealed that Oklahoma is in line with national trends.

The TTRAC, TSITE, and freight Flow data bases permit a WDC prospect to compare the transportation cost, service time, site cost, and market accessibility for locating his distribution center in any one of six cities and deliver to six market areas for 50 SIC targeted industries. Simulated runs on these data bases show Oklahoma to be a low cost state with excellent service time and market accessibility, especially when distributing to the western states. These tools will allow the economic development specialist to market actively Oklahoma's comparative advantage to the 50 targeted industries chosen as most likely to locate a WDC in Oklahoma.

Research on the feasibility of operating SCVs in Oklahoma is still delayed while the case study, economic impact analysis, and targeted industry survey should be completed in 1990. These additional reports will give policy makers a better idea of what additional steps can be taken to continue developing Oklahoma's potential as a WDC hub.

By demonstrating with thorough research, Oklahoma's comparative advantage as a distribution hub center, the TISRAD program has helped to diversity the state's economy. The tools developed by the TISRAD project can be used by existing businesses, startups, and out-of-state prospects to evaluate the profitability of expanding or locating distribution facilities in Oklahoma.

## Notes

[1]Penn, David, "Measures of Diversification," *State Policy and Economic Development in Oklahoma, 1990.* (January, 1990), p. 33-38.

[2]Penn, David, "Base Report Economic Development," Metropolitan Affairs Corporation, Southeast Michigan Council of Governments, (February, 1982).

[3]For further information on targeted industry analysis, see, Doescher, Tabitha A., "Target Industry Analysis," *State Policy and Economic Development in Oklahoma, 1989.* (January, 1989), p. 1-7.

[4]The TISRAD committee is composed of the Lieutenant Governor as Chairman, one member each from the Oklahoma Corporation Commission, and the Oklahoma Tax Commission, the Secretary of the Department of Transportation and the Commissioner of the Department of Public Safety.

[5]For additional information on SEED Foundation research or use of the various SEED WDC Data Bases, call (405) 843-9488.

[6]For a more complete Summary of TISRAD I, see, Smith, Stephen and Larkin Warner, "State Policy for the Development of the Warehousing and Distribution Industry in Oklahoma," *State Policy and Economic Development in Oklahoma: 1989.* (January 1989, p. 49-56).

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# *Occupational Patterns in the Oklahoma Manufacturing Industries*

GERALD M. LAGE

## Introduction

THE COMMON PERCEPTION OF work in the U.S. manufacturing sector is probably that of blue collar workers, quite likely unionized, performing routine tasks on an assembly line. Such jobs are, of course, at the core of the goods production that we identify with modern manufacturing. Nevertheless, the range of occupations housed within manufacturing establishments—and, therefore, ordinarily counted as "manufacturing jobs"—is indeed long and diverse. The range covers such areas as professional specialties and technical occupations in the product and process research and development operations; product sales and service; all forms of management and administrative functions; the sales, clerical and other support fields; and many of the business services often purchased as consulting or professional services by small firms, as well as those on the factory floor.

Data in Table 1 describing job distributions for all establishments in the manufacturing sector of the U.S. economy for 1986 confirm that the broad category of production workers, including those performing the complementary tasks of materials handling and machinery and equipment operation, maintenance and repair, does account for one-half to three-quarters of all manufacturing workers in the various two-digit, SIC industries. The matrix also verifies that a wide variety of other occupations are required by manufacturing establishments. As can be observed, the relative numbers of these different types of occupations vary substantially by major manufacturing industry.

The question addressed in this study is whether manufacturing in Oklahoma affords similar occupational opportunities (and, by implication, the same income-earning potential) for state workers. Has state economic policy provided an environment for a mix of industries and a pattern of business functions within firms—management, product and process research, marketing, fabrication, assembly, etc.—which generates an occupational structure similar to the national pattern? Whether similar work is paid a comparable wage and other aspects related to worker compensation and mobility are not addressed.

Unfortunately, we do not currently have the required statistical observations to conclusively answer these questions. However, the results of the analysis to follow indicate that Oklahoma probably now offers a range of occupations with relatively fewer management, technical and professional occupations and relatively more operations and production workers than the national average. Furthermore, differences between Oklahoma and national averages to be derived from analysis of the 1990 population census when finally completed are likely to be substantial.

The source of the expanding gap predicated here is a combination of predictions for an ongoing net shrinkage in those industries with the higher skilled occupations and a little-to-no-change in the pattern of business operations yielding relatively large numbers of production workers within industry classifications when compared with national structures. Given the relatively small share of manufacturing employment in the state total, however, this structural difference is only a small part of the explanation of the state's widening gap in per capita personal income.

### The Research Framework

A framework for the analysis of occupational structures can be developed as a simple model relating the different types of jobs (used interchangeably with occupations) to the mix of industries operating in the economy.

**TABLE 1**

**Occupational Shares in U.S. Manufacturing Industries by Major Occupational Categories 1986**

| Industry | All occupations | Percent distribution of employment in manufacturing industries by major occupational group, 1986 | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Managers and administrative workers | Professional, paraprofessional, and technical workers | Sales and related workers | Clerical and administrative support workers | Agriculture, forestry, fishing, and related workers | Production, construction, operating, maintenance, and material handling workers | Service workers |
| Total | 100.0 | 6.3 | 11.8 | 3.2 | 11.6 | 0.5 | 65.0 | 1.6 |
| Food and kindred products | 100.0 | 5.2 | 3.9 | 4.8 | 9.1 | 1.3 | 72.3 | 3.4 |
| Tobacco products | 100.0 | 5.5 | 8.7 | 5.6 | 7.3 | .1 | 70.7 | 2.1 |
| Textile mill products | 100.0 | 3.4 | 2.6 | 1.1 | 8.1 | .0 | 83.1 | 1.7 |
| Apparel and other textile products | 100.0 | 3.0 | 1.6 | 1.7 | 8.9 | .0 | 83.7 | 1.0 |
| Lumber and wood products, except furniture | 100.0 | 4.7 | 2.5 | 2.0 | 6.7 | 9.1 | 73.6 | 1.3 |
| Furniture and fixtures | 100.0 | 4.6 | 3.1 | 2.4 | 9.4 | .0 | 79.3 | 1.2 |
| Paper and allied products | 100.0 | 5.3 | 6.6 | 2.9 | 9.7 | .5 | 73.6 | 1.3 |
| Printing and publishing | 100.0 | 7.5 | 13.4 | 10.8 | 22.5 | .0 | 44.6 | 1.2 |
| Chemicals and allied products | 100.0 | 9.0 | 19.7 | 4.5 | 14.9 | .3 | 49.7 | 2.0 |
| Petroleum refining and related industries | 100.0 | 6.8 | 20.3 | 2.8 | 12.7 | .0 | 56.1 | 1.3 |
| Rubber and miscellaneous plastics products | 100.0 | 5.4 | 4.7 | 2.1 | 8.7 | .0 | 77.6 | 1.4 |
| Leather and leather products | 100.0 | 4.2 | 2.0 | 2.4 | 9.9 | .0 | 80.3 | 1.2 |
| Stone, clay, glass, and concrete products | 100.0 | 5.9 | 4.2 | 2.6 | 9.2 | .0 | 77.0 | 1.1 |
| Primary metal products | 100.0 | 4.7 | 6.2 | 1.6 | 8.2 | .0 | 77.5 | 1.7 |
| Fabricated metal products | 100.0 | 6.5 | 6.2 | 2.5 | 10.1 | .0 | 73.4 | 1.3 |
| Machinery, except electrical and transportation equipment | 100.0 | 8.3 | 17.1 | 3.2 | 13.2 | .0 | 56.9 | 1.2 |
| Electrical and electronic machinery | 100.0 | 7.6 | 22.8 | 2.0 | 12.0 | .0 | 54.3 | 1.3 |
| Transportation equipment | 100.0 | 5.2 | 21.3 | .9 | 9.7 | .0 | 61.0 | 1.9 |
| Instruments and related products | 100.0 | 9.3 | 21.4 | 3.5 | 15.4 | .0 | 48.7 | 1.6 |
| Miscellaneous manufacturing industries | 100.0 | 7.3 | 5.1 | 4.3 | 14.2 | .0 | 68.0 | 1.2 |

Source: U.S. Department of Labor, Bureau of Labor Statistics, "Occupational Employment in Manufacturing Industries," Bulletin 2312, August, 1988.

At the level of the U.S. national manufacturing sector, let the current year (t) jobs observed ($J^u_t$) be a combination of the data array of occupations of each type required by industries of each type ($M^u_t$) multiplied by the proportionate shares of each type of industry in the manufacturing sector ($I^u_t$):[1]

$$J^u_t = M^u_t \times I^u_t.$$

The definition of the jobs offered in the Oklahoma manufacturing sector would have all corresponding coefficients suitably reinterpreted with the regional data; hence, jobs in Oklahoma ($J^o_t$) would be a combination of the regional occupation-by-industry matrix and the state's pattern of industrial shares in total manufacturing:

$$J^o_t = M^o_t \times I^o_t.$$

With these definitions, differences in occupational structures can be partitioned into two effects corresponding to differences in the state and national mix of manufacturing industries and differences in the state and national arrays of occupations required by industry:

$$J^o_t - J^u_t = M^u_t(I^o_t - I^u_t) + (M^o_t - M^u_t)I^o_t.$$

Occupational differences due to the first term on the right may be said to be caused by *industry-mix differences*, whereas those from the second term are caused by *occupational-pattern differences*.

By analogy, differences that occur in either the state or national observed occupational offerings from one point in time to another can be partitioned into similar changing patterns in industry mix and occupations-by-industry over time.

## Analysis

With the 1986 matrix of occupations-by-industry recently made available, the first hypothesis to be tested is whether differences in U.S. and Oklahoma industry-mix distributions lead to differences in occupational requirements. For this test, full and part-time employment levels for 1987 estimated by the Bureau of Economic Analysis were collected for the state and nation. Table 2 contains these data and the calculated relative shares and differences.

Oklahoma's industrial share substantially exceeds the national share in the Machinery, Petroleum Products and Stone, Clay and Glass industries and to a lesser extent in Rubber and Plastic Products and Transportation Equipment, even after severe contractions in the 1980s. The state falls below national levels to a considerable degree in the Textile, Chemical, and Electronic industries. Thus, it is reasonable to expect that industry mix differences might lead to significant differences in occupational requirements, even if the state and national occupation-by-industry requirements were identical.

When the U.S. industry mix for 1987 full and part-time employment is applied to the occupation-by-industry matrix of 1986 (Table 1), the one-year

**TABLE 2**

**Full and Part-Time Employment, Level and Distributive Shares, Oklahoma and the United States 1987**

| SIC Industry[a] | 1987 U.S. Employment (1,000) | 1987 OK Employment (#) | U.S. Distribution (%) | OK Distribution (%) | Difference OK-U.S. |
|---|---|---|---|---|---|
| Food | 1,633.0 | 14,270 | 8.3 | 8.8 | 0.5 |
| Tobacco | 55.5 | 17 | 0.3 | — | -0.3 |
| Textiles | 734.0 | 1,075 | 3.8 | 0.7 | -3.1 |
| Apparel | 1,145.3 | 8,509 | 5.9 | 5.3 | -0.6 |
| Lumber | 851.5 | 3,337 | 4.4 | 2.1 | -2.3 |
| Furniture | 535.7 | 1,867 | 2.7 | 1.1 | -1.6 |
| Paper | 683.0 | 3,332 | 3.5 | 2.1 | -1.4 |
| Printing | 1,615.0 | 12,375 | 8.2 | 7.6 | -0.6 |
| Chemicals | 1,034.2 | 3,440 | 5.3 | 2.0 | -3.3 |
| Petroleum | 162.8 | 7,160 | 0.8 | 4.4 | 3.6 |
| Rubber/Plastics | 825.0 | 10,611 | 4.2 | 6.6 | 2.4 |
| Leather | 148.7 | 479 | 0.8 | 0.3 | -0.5 |
| Stone/Clay/Glass | 641.5 | 10,747 | 3.3 | 6.7 | 3.4 |
| Primary Metal | 743.2 | 3,959 | 3.8 | 2.5 | -1.3 |
| Fabricated Metal | 1,419.4 | 14,381 | 7.2 | 8.9 | 1.7 |
| Machinery | 2,052.1 | 30,527 | 10.5 | 18.9 | 8.4 |
| Electronic Equipment | 2,095.5 | 9,211 | 10.7 | 5.7 | -5.0 |
| Transportation Equipment | 2,048.4 | 20,245 | 10.5 | 12.5 | 2.0 |
| Instruments | 690.6 | 2,695 | 3.5 | 1.7 | -1.8 |
| Miscellaneous Manufacturing | 451.2 | 3,414 | 2.3 | 2.1 | -0.2 |
| TOTAL | 19,565.6 | 161,444 | | | |

Source: U.S. Department of Commerce, Bureau of Economic Analysis, computer data tape.

[a]For full description see Table 1.

change in employment and differences in definitions for the two data sources prove to be minor. The U.S. share of different occupations from this calculation, as shown in Table 3, is nearly identical to the national average for all manufacturing shown in Table 1.

The surprising result is that the calculated distribution for all Oklahoma manufacturing industries is *substantially the same* as the national average. The hypothetical state distribution, as shown in the second data column of Table 3, never differs from the national distribution by more than a few tenths of a percentage point. Evidently, industry mix differences would lead to only insignificant occupational differences within the manufacturing sector *if* Oklahoma and U.S. national job requirements by industry were identical. [Recall, however, that this data refers only to the approximately 165,000 workers in the manufacturing industries and not the 1.5 million total state employment.]

Since industry-mix shares are obviously different in Table 2, the equal distributions of occupational shares, as calculated for this experiment, result from a balancing of effects. Oklahoma's machinery production, for example, has a large occupational share in professional and technical workers and is low in production workers, but the relatively small electronic equipment and components sectors also has a job distribution that is biased in this same way. It is simply a surprising fact that these pluses and minuses are so evenly balanced in this hypothetical calculation.[2]

But, are the occupations required by product producers *within a given manufacturing industry*, at the 2-digit SIC level, the same in Oklahoma as in the rest of the country? If this is not the case, then the conclusion that actual industry mix differences result in almost no net differences in the aggregate state and national occupational shares would be invalid.

To test for the similarity of *within-industry* occupational patterns, data according to still another classification system were obtained for the U.S. and Oklahoma from the 1980 Census of Population.[3] These data are summarized in Table 4 in terms of percentage point differences between the Oklahoma distributive shares of occupations by industry and those of the U.S.

**TABLE 3**

**Hypothetical Distribution of Occupations within Oklahoma's Manufacturing Industries, Based on National Occupation-by-Industry Coefficients**
**1987**

| | Occupations in Manufacturing Industries | | |
|---|---|---|---|
| Occupations in Manufacturing | United States 1987 (%) | Oklahoma 1987 (%) | U.S. Annual Growth Rate 1983/86 (%) |
| Managers and administrative workers | 6.25 | 6.38 | 3.9 |
| Professional, paraprofessional, and technical workers | 11.66 | 11.96 | 3.8 |
| Sales and related workers | 3.26 | 3.25 | 4.2 |
| Clerical and administrative support workers | 11.59 | 11.63 | 0.8 |
| Agriculture, forestry, fishing and related workers | .54 | .34 | 0.7 |
| Production, construction, operating, maintenance, and material handling workers | 65.10 | 64.88 | 0.6 |
| Service Workers | 1.57 | 1.54 | -2.2 |
| ALL OCCUPATIONS | 100.00 | 100.00 | 1.2 |

Source: Employment distributions for Oklahoma and U.S. from U.S. Department of Commerce, Bureau of Economic Analysis, data tape, Full and Part-time Employment. Occupation by Industry matrix, U.S. Department of Labor, Bureau of Labor Statistics, "Occupation Employment in Manufacturing Industries," Bulletin 2312, August 1988.

The first row of data supports the previous conclusion that aggregate occupational differences between the Oklahoma and the U.S. manufacturing sectors exist to some degree; but they are, relatively speaking, quite minor. Oklahoma, in the 1980 Census, is shown to have 1.5 percentage points fewer occupations in the very broad category of professional specialties (engineers, health workers, teachers, researchers, etc.); 1.7 percentage points more precision production, craft and repair jobs; and, 0.9 percent more operators, fabricators and laborers. Other types of work differences are even more minor.

A closer look at the percentage point differences in occupational patterns, however, reveals some very substantial differences between state and national shares within certain industries and for certain occupational categories. The aggregate of all durable goods, for example, would appear to be rather more locally unique than the nondurable goods sector. Food and Textile Mill products in Oklahoma need relatively large numbers of craftsmen while Apparel is definitely operations or assembly oriented in the state. Several occupations in the Chemicals industry differ substantially in Oklahoma from their national counterparts, with especially high concentrations of executives and sales occupations. The "Other Durable," residual category, which presumably is mostly Petroleum Refining and the state's small Leather industry, is the most unique with relatively large executive/managerial and clercial/support categories. This certainly would not be inconsistent with a pattern of headquarters operations of oil companies located in the state.

The uniform and substantial occupational difference between state and national durable goods industries are even more striking.[4] With the minor exception of the small Lumber and Furniture industry, *all durable goods sectors in Oklahoma require substanitally larger proportions of operators, fabricators and*

*laborers and substantially fewer professional specialties.* Technicians tend to be under-represented in the Electronic and Transportation areas and craftsmen are somewhat heavily utilized in selected durable goods industries—especially, Electronics and Electric Equipment and Aircraft and Aircraft Parts.

## Conclusions

Comparative analysis of the occupation-by-industry data for Oklahoma and the U.S. for periods as divergent as the early 1970s and late 1980s leads to the conclusion that occupational choices available to employees in Oklahoma and the whole U.S. economy would not be substantially different if *within-industry* occupational requirements were similar. The 1980 Census of Population data, however, reveal that these occupational requirements within industries did differ substantially that year and they differ in a consistent pattern, especially for durable goods industries. Generally speaking, Oklahoma industry is more production, operations and assembly oriented and less managerial, marketing and research and development oriented.

Since the 1980 Census of Population data in Table 4 indicate that actual occupational offerings by Oklahoma manufacturing establishments were similar to the national pattern in that year, the result must be a matter of industry mix weights causing a netting out of substantial differences among the list of industries. In fact, a closer examination of Table 4 indicates that most of the balancing occurs between the Petroleum Refining and related products (Other nondurables and Chemicals) and all durable goods, except for Lumber and Furniture. The low ratio of operating workers in "other nondurables" is the only significant offset to the uniformly high rates elsewhere. Similarly, only the relatively high levels of managers and professionals in the Chemicals and "other nondurables" industries keep Oklahoma from being substantially below national levels in these education-based occupational categories.

Without current census data we do not know today's actual distribution of occupations in Oklahoma manufacturing. Nevertheless, it is interesting to speculate about what the true pattern really is and how a comparison of state and national occupational patterns in 1990 might differ from a decade earlier.

**TABLE 4**

**Difference in Occupational Shares by Industry[a]**
**Oklahoma Minus the United States**
**1980**

| | EXEC | PROF | TECH | SALE | CLER | SER | FARM | CRFT | OPER |
|---|---|---|---|---|---|---|---|---|---|
| **Manufacturing** | -0.45 | -1.49 | -0.33 | 0.37 | -0.72 | 0.06 | -0.02 | 1.69 | 0.89 |
| **Nondurables** | 0.59 | 0.45 | 0.09 | 1.05 | 0.13 | 0.24 | -0.02 | 1.04 | -3.57 |
| **Food Products** | -0.37 | -0.86 | -0.59 | 0.66 | -1.29 | -0.53 | -0.11 | 2.26 | 0.83 |
| **Textile Mill Products** | -1.63 | -0.93 | 0.67 | 2.47 | -3.05 | -0.21 | 0.09 | 2.59 | 0.01 |
| **Apparel** | -2.01 | -0.42 | -0.28 | -0.54 | -2.86 | 0.59 | 0.05 | -0.76 | 6.22 |
| **Paper & Products** | 0.35 | -1.79 | -0.14 | 0.84 | -2.03 | 0.15 | -0.06 | 0.88 | 1.79 |
| **Printing/Publishing** | -0.04 | 0.73 | -0.12 | 4.64 | -2.12 | -0.34 | 0.03 | -1.27 | -1.52 |
| **Chemicals** | 5.37 | -3.48 | -2.67 | 6.00 | -2.93 | -0.89 | 0.11 | 0.63 | -2.15 |
| **Rubber & Plastics** | -2.39 | -0.11 | -0.60 | -0.61 | -1.16 | 1.01 | 0.02 | 1.80 | 2.03 |
| **Other Nondurable** | 5.57 | 6.70 | 4.65 | -0.81 | 10.64 | 1.37 | -0.07 | -0.32 | -27.73 |
| **Durable Goods** | -1.04 | -2.63 | -0.62 | 0.06 | -1.17 | -0.02 | -0.04 | 1.81 | 3.65 |
| **Lumber & Furniture** | -0.71 | -0.38 | -0.26 | -0.71 | -3.14 | -0.06 | 2.20 | 5.25 | -2.17 |
| **Stone, Clay & Glass** | -1.83 | -1.54 | -0.80 | -0.05 | -1.31 | 0.15 | 0.15 | 0.88 | 4.35 |
| **Primary Metal Industry** | 0.67 | -1.77 | 0.70 | 0.95 | -1.63 | 0.92 | -0.05 | -3.87 | 4.08 |
| **Fabricated Metal** | -0.78 | -0.63 | 1.00 | 0.06 | -2.42 | -0.31 | -0.04 | -1.14 | 4.26 |
| **Nonelectrical Machinery** | -0.96 | -2.46 | -0.70 | -0.25 | 0.44 | -0.03 | -0.01 | 1.87 | 2.10 |
| **Electrical/Electronic** | -3.75 | -4.23 | -2.42 | -0.35 | -3.87 | 0.08 | -0.05 | 6.64 | 7.97 |
| **Motor Vehicles/Parts** | -0.63 | -3.37 | -0.73 | 0.23 | -1.15 | 0.32 | -0.03 | -2.66 | 8.03 |
| **Aircraft/parts** | -2.92 | -12.24 | -2.93 | 0.42 | -0.05 | 0.30 | -0.04 | 9.03 | 8.44 |
| **Other Transportation Equipment** | 3.40 | -3.77 | -1.51 | 0.22 | -4.55 | 1.35 | -0.06 | -14.60 | 19.53 |
| **Other Durables** | -0.66 | -0.16 | 0.48 | 1.76 | -0.88 | -1.09 | -0.06 | 1.16 | -0.54 |

Source: U.S. Department of Commerce, Bureau of the Census, "1980 Census of Population, Detailed Characteristics," Volume D, Oklahoma and United States.

[a]Each entry is the Oklahoma share (as a percentage) for that occupation and industry minus the corresponding U.S. share.

U.S. Census Occupation Classification

EXEC: Executive, Administrative, and Managerial Occupations
TECH: Technicians and Related Support Occupations
SALE: Sales Occupations
CLER: Administrative Support Occupations, Including Clerical
SER: Service Occupations
FARM: Farming, Forestry and Fishing Occupations
CRFT: Precision Production, Craft, and Repair Occupations
OPER: Operators, Fabricators, and Laborers

From the analysis of occupational patterns and industry mix differences shown here, it would appear reasonable to conclude that real regional differences do exist. As the petroleum-product-based activity diminishes in relative importance in the Oklahoma manufacturing sector, it is likely that the occupational offerings in the state are increasing most in the operating and assembly skills.

Since the industry mix of Oklahoma establishments has tended to move Oklahoma occupations toward the national pattern, the cause of the hypothesized growth in this disparity lies in the business structure and functional purposes of establishments within industries. State economic policy evidently favors the attraction and growth of the assembly subsidiaries over the management headquarters and the research and development operations. In fact, in light of this data, it may be questioned whether even the limited success of recent high technology industry growth has helped move the occupations utilized by the state's industries closer to that of their peer organizations. Setting state policy to favor a desired pattern of occupational mix might need to be a state goal as well as simply the level and/or growth of state employment.

## Notes

[1]Mathematically, J is a column vector of proportionate shares of all manufacturing workers in each occupation, M is a matrix of occupation per industry coefficients and I is a column vector of proportionate shares of each industry in total manufacturing employment.

[2]A similar calculation of U.S. and Oklahoma job requirements was made for 1973 using the 1977 national occupation-by-industry matrix (the earliest available) and the relevant industrial mix shares. The occupational distributions in both regions changed substantially over the 13 years (mainly from a reduction in the share of production workers), but the differences in state and national requirements were as small in 1973 as those reported here for 1987.

[3]This work was necessary because of the apparent unavailability of the desired occupation-by-industry matrices on a state level basis.

[4]Oklahoma's Rubber and Plastics Products industry appears to more closely fit the durable goods than the nondurable goods sector. Perhaps this is because of the dominance of the production of tires and tubes over the plastic products component of the industry.

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# *The Single European Act in 1992: Prospects for Success and Influences on the U.S.A. and Oklahoma Economies*[1]

A.J. KONDONASSIS

## Introduction

HISTORIANS GENERALLY AGREE that the U.S. with its forward looking Marshall Plan aid program, planted the seeds for European unity. At the end of the Plan in 1952 two European leaders, Robert Schuman and Jean Monnet took imaginative initiatives which led to the establishment of the European Steel and Coal Community among the countries of Belgium, Luxembourg, the Netherlands, the Federal Republic of Germany, Italy and France. The reality of this Community and the resulting experience of a close working relationship were important factors leading to the signing of the Treaty of Rome in 1957 and to the genesis of the European Economic Community (EEC) in 1958.

The Treaty of Rome[2] represents a comprehensive document which articulates the goals of the EEC and provides for the establishment of several institutions designed to help implement these goals. The ultimate goal of the Treaty of Rome is to establish a common market among the member states within a transitional period of 12 years. To accomplish this the Treaty provides for a number of things including:

(1) the elimination of custom duties and of quantitative restictions in the import and export of goods;

(2) the establishment of a common customs tariff;

(3) the removal of barriers to the free movement of people, services and capital;

(4) the adoption of a common agricultural policy.

The institutional framework established to attain the above comprises the European Parliament, the Council, the Commission and the Court of Justice.

Thirty years later a brief review of the attainments of the EEC reveals the following: Europe has become a more peaceful place to live in as a political reconciliation between France and Germany has occurred and as such a political and social consensus among the members seems to have emerged. In the economic arena, tariffs between members have been eliminated and the volume of trade has expanded. There has been a free movement of labor and some liberalization of capital movements. A common external trade policy and a common agricultural policy have been established. Over the years, the group of the original six members, Belgium, the Federal Republic of Germany, France, Italy, Luxembourg and the Netherlands has expanded to twelve. In 1973, Denmark, Ireland and the United Kingdom became members. In 1981, Greece joined and in 1986 Spain and Portugal became the latest members of the EEC.

During the last thirty years the EEC has become a powerful group in world trade. For instance, it is estimated that in 1987 EEC exports constituted 20 percent of the world exports.[3, 4] Notwithstanding these developments, the EEC has also been confronted with a number of problems. Among them are the following:

(1) The present 12 member countries of the EEC represent divergent sizes, standards of living, cultures, currencies and languages. As a result, conflicts on various policy issues have been rather common.

(2) A second major difficulty is that, partly because of the above differences, the goal of establishing a common market has not been met. Thirty years later the EEC is a loose customs union with a plethora of intra-EEC frontier trade barriers including import quotas, non-uniform standards and regulations.

(3) Another area of concern is the

Common Agricultural Policy (CAP). The Treaty of Rome rationalizes the CAP on the grounds that it will increase agricultural productivity and the standard of living of EEC farmers and will guarantee reasonable prices for the consumers. Over the years, however, implementation of the CAP has resulted into a system of generous import levies and export refunds. The levies, the critics of the CAP argue, are aimed at keeping non-EEC agricultural products out of the EEC and the export refunds are designed to encourage an increase in EEC's world share of agricultural exports. The implementation of this system also represents a substantial burden on the EEC budget and accounts for the large annual EEC agricultural surpluses in wheat, barley, sugar, beef, wine and dairy products.

The EEC Heads of States, in recognition of that the EEC of 12 member states did not accomplish an integrated market, approved in Milan, Italy in June 1985 a *White Paper* aimed at completing the internal single market. The result was an extensive legislative program designed to achieve a single market without frontiers by 1992. This program was ratified in 1987 and has been referred to as the Single European Act.

## The Single European Act

The Single European Act is an amendment of the 1957 Treaty of Rome. It also represents a recommitment of the EEC to complete the internal market by 1992. It crystallized when it also became clear that the European economies needed a stimulus toward more rapid economic growth and higher levels of employment. The program encompasses about 300 points and deals with improvement in the functioning of EEC institutions, with removal of all barriers to the free movement of goods, persons, services and capital, with cooperation in economic and monetary policy and with improved cooperation in the areas of social cohesion, research and development, the environment, foreign policy and defense.

A recently completed study by Paolo Cecchini[5] attempts to quantify the costs and benefits of the EEC with and without frontiers. It focuses on market barriers arising from red tape and delays created by customs formalities, from restrictive practices in public procurement, from divergent product standards and from conflicting business and tax regulations inhibiting transborder business activity.

Microeconomically, the study estimates the cost of border formalities and red tape at 1.8 percent of the value of goods traded within the EEC. The average cost to companies of technical regulations and similar barriers to cross-border trade is valued at about 2 percent of their total expenses. Furthermore, the study estimates that industries and services which are now subject to market-entry restrictions will experience cost and price reductions of 10 percent to 20 percent in a more competitive environment. Finally, the cost savings benefits to industry from economies of scale are estimated at about 2 percent of Gross Domestic Product.

According to the study the macroeconomic influences of the Single Market are no less impressive. It is estimated that in the medium-term the downward pressures on prices and costs would result in a 6 percent cumulative decline on consumer prices; about 2 million jobs would be created; government balances would improve by about 2.2 percent of Gross Domestic Product; and EEC's external balance of goods and services would improve by 1 percent of Gross Domestic Product. Overall, EEC's Gross Domestic Product would be increased by about 5 percent.

The substantial benefits from the Single Market as outlined in the Cecchini study are premised on a number of required changes and/or reforms. Many of them are unresolved issues that have confronted EEC since its inception. These include changes and/or reforms in the Common Agricultural Policy and in the use of the structural funds. The EEC Commission has repeatedly underscored that the effectiveness of the Single Market depends in no small measure on reforms in agricultural policy (CAP). These reforms must aim to make European agriculture more competitive, to eliminate the large agricultural surpluses and to check the increase in the burden that the agricultural policy imposes on the EEC budget. In this regard the U.S. has recommended that all major agricultural subsidies be eliminated with 10 years. The European politicians view this proposal as tantamount to political suicide. They urge for more "flexibility" on the matter. In addition, the increased use of structural funds in the EEC budget to assist the less developed areas of the EEC e.g., Portugal, Ireland, Greece, parts of Spain, the South of Italy and Northern Ireland, is also viewed as a necessary condition for a successful single market. However, West Germany's current preoccupation with helping East Germany may dilute the ability of the EC to assist these areas in the future. Other key issues that need to be addressed are monetary and fiscal harmonization, the development of internationally competitive enterprises and the avoidance of protectionism.

The Treaty of Rome in 1957 was not concerned with the goal of monetary integration. At a time of fixed exchange rates, the possibility of a common monetary policy took second place to other objectives such as a customs union and a common agricultural policy. But with the collapse of the Bretton Woods system in 1973 the Europeans have gradually recognized that floating exchange rates represented a risk and a cost to their economies which were involved in a large volume of intra-EEC trade. Thus, through a series of initiatives they eventually agreed to establish the European Monetary System (EMS) in 1979.

The primary purpose of the EMS is to promote monetary cooperation and monetary stability in Europe. It is

comprised of three components: the European Currency Unit (ECU), the exchange-rate mechanism and the financial solidarity mechanisms. ECU, which is an artificial monetary unit, is calculated as a basket of set amounts of each EC currency (10 EC currencies). It is used for fixing central rates in the exchange rate mechanism and for denominating creditor and debtor balances in the process of intervention in EC currencies; also, it serves as a reserve and settlement instrument among the central banks in the EMS.[6] Although there have been a number of exchange rate readjustments among the EC currencies since 1979, and the nonparticipation of the sterling in the EMS has been a negative influence on its functioning, a substantial degree of exchange rate stability has been attained. Jacques Delors, President of the EC Commission and an ardent proponent of EC monetary union, argues that thanks to the EMS it has been possible to maintain an open trade system within the community. There is still a long way to go toward economic and monetary union. Progress to that end will depend on the completion of the internal market. At the same time the EMS has become the operational route for convergence. But now, given the objective of the Single Act for economic and monetary cooperation leading to a union, greater progress in exchange rate stability will be needed. In addition, the establishment of the ECU as a common currency, the liberalization of capital movements among the EEC countries and the creation of a European central bank are issues that will need to be moved forward. Their resolution will require, apart from coping with a myriad of technical details, a spirit of supranationalism as the transferring of monetary and fiscal authority from the national governments to European institutions takes place.

Recently, the EC Commission proposed that the twelve members gradually fold their currencies into the ECU and that a new institution the "Euro Fed" be established to coordinate monetary policy. This is a formal proposal of the EC Commission which will become the basis of discussion and debate in the future. It must be underscored that the United Kingdom's position on monetary union is much more evolutionary that the above proposal.

Furthermore, the proposed East-West Germany unification poses some interesting questions. The promise of exchange of East German marks to Deutsche marks, possibly at the rate of exchange of 1 to 1 and the need for substantial assistance by West Germany induce speculation concerning the impact of this eventuality on the economic health of West Germany and on Europe 1992. The associated monetary expansion in West Germany is likely to produce inflation and in order to fight it higher interest rates. Given the key role of the Deutsche mark in the EMS both of these developments will strain the EMS which is intended to be the basis of European monetary union in the future. In fact, deterioration of the value of the Deutsche mark may mean the end of the EMS.

Another issue is the establishment of uniform value added taxes (VAT) among the member countries. Currently there is wide variability in these taxes. Some countries have high VAT and others quite low.[7] Some depend on VAT for a large source of their revenues and others not so much. To reduce the variability and the height of these taxes and to move toward fiscal harmonization is not going to be easy. However, without such changes tax evasion would be encouraged and the smooth functioning of the Single Market would be jeopardized.

A common assumption of the establishment of a Single Market of 320 million people is that it will induce the formation of large-size enterprises via mergers and consolidations and will bring about corresponding economies of scale to these firms. Notwithstanding the possibility that these firms may become internationally competitive, there are a number of potential problems associated with this eventuality. One of them is that the emergence of large European firms may have deleterious effects on the large numbers of small-size firms prevalent in the countries of Southern Europe. Many of these small firms have operated in an environment of red tape and bureaucracy for quite some time. They are local in scope and undercapitalized. Located in the periphery, they are not the beneficiaries of externalities as the firms of the center are, i.e., Northern Europe. What it comes down to is whether the small businesses of Southern Europe, under the impetus of the Single Market, will be able to restructure and become competitive by 1992. If not, would they be eliminated or would they seek the protection of their governments which in turn may ask for exceptions?

In this connection, Pierre Pescatore, former Judge on the Court of Justice of the European Communities, expresses his concern about the effectiveness of the Single Act by pointing out that a number of exceptions are allowed in the Final Act for unilateral protective measures under the guise of "safety" and "protection of the environment."[8] He further emphasizes that unilateral reservations about the Single Act have already been expressed and recorded by Denmark, Greece and Portugal.[9] In this regard, it should be pointed out that the Final Act, which is a document attached to the Single Act, contains twenty declarations. Some of them are interpretations of the Single Act and others are reservations by individual countries regarding the Single Act. Given recent developments it is also quite conceivable that declarations of concern from the small northern European countries, e.g., Netherlands, Belgium, Denmark, Luxemborg may further delay Europe 1992. To a substantial minority in these countries the high likelihood of German reunification is stirring up fears of domination by the economic and political power of the new and larger Germany. These declarations are likely to generate difficulties in the timely implementation of the Single Act.

A related issue has to do with the so-called qualified majority system which the Single Act has introduced to take

the place of the unanimity rule of the past. According to this new system, each member country is allocated a given number of votes according to its size. For instance, France, Italy, Germany and the United Kingdom are assigned 10 votes each. Belgium, Greece, Netherlands and Portugal have 5 votes each, Spain has 8 votes, Denmark and Ireland 3 votes each, and Luxembourg has 2 votes. Decisions can be made by a minimum of 54 votes out of the possible 76. It takes 25 votes to block a motion by a large country. Given the differences in the economic and social structure among the 12 members, the likelihood for deadlocks is real.

## Implications for the U.S. And Oklahoma Economies

At this juncture, it is not clear whether Europe 1992 would be open or restricted to non-European firms, financial or non-financial, and whether it will discriminate against U.S. made products. A great deal of speculation exists on these issues. In this regard, some argue that Europe 1992 would be a Fortress Europe and others that it would be a Partnership Europe. The fears of a protectionist Europe are premised on that all the documents dealing with the Single Market make no references or provide no specifics on the stance that Europe 1992 will take regarding non-member countries.

However, one thing is clear from the data in Tables 1-4, that U.S. and Oklahoma trade with the European Economic Community represent an important economic activity. More specifically, the following are worth noting:

(1) U.S. exports with the EEC as a percent of total U.S. exports were significant, but relatively constant, 23.88 percent in 1981 and 23.95 percent in 1987.

(2) Manufactured exports to the EEC as a percent of total U.S. exports to the EEC increased from 67.88 percent in 1981 to 79.04 percent in 1987, while agricultural exports decreased from 19.64 percent in 1981 to 11.32 percent in 1987.

(3) Beginning in 1984 the U.S. experienced persistent and increasing trade deficits with the EEC.

(4) The data show that Oklahoma agricultural exports were $342.2 million and manufactured exports about $843 million in 1987.[10] Of the $843 million

**TABLE 1**

**U.S. Merchandise Trade**
**(billions of dollars)**

**World**

| | Exports | | | Imports | | |
|---|---|---|---|---|---|---|
| Year | Total | Manufactures | Agricultural Products | Total | Manufactures | Agricultural Products |
| 1981 | $238.68 | $171.74 | $43.81 | $273.35 | $156.38 | $16.80 |
| 1982 | 216.44 | 155.30 | 37.01 | 254.88 | 158.08 | 17.28 |
| 1983 | 205.63 | 148.46 | 36.45 | 269.87 | 178.44 | 18.10 |
| 1984 | 223.99 | 163.59 | 38.23 | 346.36 | 241.82 | 21.58 |
| 1985 | 218.82 | 167.91 | 29.61 | 352.46 | 269.47 | 22.02 |
| 1986 | 226.82 | 179.93 | 26.61 | 382.96 | 308.86 | 23.11 |
| 1987 | 252.86 | 200.04 | 29.13 | 424.08 | 337.74 | 22.62 |

Source: U.S. Department of Commerce, *United States Trade, Performance 1987*, June 1988.

**TABLE 2**

**U.S. Merchandise Trade**
**(billions of dollars)**

**European Economic Community (12)**

| | Exports | | | Imports | | |
|---|---|---|---|---|---|---|
| Year | Total | Manufactures | Agricultural Products | Total | Manufactures | Agricultural Products |
| 1981 | $57.01 | $38.70 | $11.20 | $45.58 | $34.99 | $2.84 |
| 1982 | 52.36 | 34.58 | 10.39 | 46.41 | 35.09 | 3.12 |
| 1983 | 48.43 | 33.56 | 9.18 | 47.87 | 37.24 | 3.39 |
| 1984 | 50.49 | 36.72 | 8.19 | 63.41 | 50.91 | 4.08 |
| 1985 | 48.99 | 36.84 | 6.40 | 71.61 | 59.75 | 4.49 |
| 1986 | 53.15 | 40.74 | 6.71 | 79.52 | 69.14 | 4.63 |
| 1987 | 60.57 | 47.88 | 6.86 | 84.87 | 74.02 | 4.66 |

Source: U.S. Department of Commerce, *United States Trade, Performance 1987*, June 1988.

manufactured exports, about 31 percent, or $266 million were with the EEC. In addition, as the U.S. Department of Commerce estimates, a substantial amount of Oklahoma sales of manufactures to other U.S. industries became inputs of manufactures for export by these industries. For instance, these Oklahoma indirect export sales were estimated at $1.2 billion in 1984.[11] If we assume that about 25 percent of Oklahoma agricultural exports have been sold to the EEC and that indirect export manufactures in 1987 were about equal the amount of direct export sales ($266 million), as they were in 1984, then the total export activity of Oklahoma (agricultural and manufactures exports) with the EEC can be estimated to be about $618 million.[12]

(5) Both in 1984 and in 1987, Oklahoma's largest manufactured export earnings were generated by the non-electric machinery industry (more than one-third).

(6) Both in 1985 and in 1987, wheat exports represented the most important agricultural export of Oklahoma. Wheat exports contributed about 75 percent in 1985 and about 57 percent in 1987 of agricultural export earnings.

Given the above information, it is obvious that what will happen to Europe in 1992 will be quite important to both the U.S. and Oklahoma economies. Specifically, possible changes to the Common Agricultural Policy will have direct relevance to Oklahoma agriculture.

If the Single European Act is implemented and Europe 1992 becomes an open single market of 320 million people, U.S. firms which operate in it are likely to experience substantial benefits as the Cecchini study has shown. These may be the result of the following: (1) economies of scale; (2) the new competitive environment of Europe 1992; (3) cost reductions because of the adoption of uniform standards, certification procedures and regulations; (4) cost effective advantages because of the development of EEC-wide networks of production and distribution. U.S. banks licensed to operate in Europe 1992 may also experience lower costs and higher profits. Large and efficient U.S. banks may do well against the small and less competitive European banks, especially in the small European countries.

If Europe 1992 is protectionist, U.S. and Oklahoma exports to the EEC are likely to be discriminated against. Discrimination may take the form of standards based on European practice and experience and of legislation which may require that the output of goods and services traded freely in the Single Market include total or partial inputs from European firms. A major source of EEC protectionism which affects Oklahoma wheat exports is the Common Agricultural Policy. Given that the CAP has been a champion of protectionism, if no reforms are made, continuation of subsidies, input barriers, quotas and other trade distorting barriers is certain. It was mentioned before that as Europe moves toward a

**TABLE 3**

**Oklahoma Manufactures Exported to the European Economic Community 1987 (millions of dollars)**

| Major industries | Dollars | Percent |
|---|---|---|
| Food Products | $ 2.37 | .89% |
| Apparel Products | 1.26 | .47 |
| Furniture | 5.54 | 2.08 |
| Paper Products | 12.57 | 4.72 |
| Chemical Products | 77.81 | 29.18 |
| Petroleum Refining | 3.85 | 1.44 |
| Rubber & Plastics | 3.45 | 1.30 |
| Primary Metal Products | 2.64 | .99 |
| Fabricated Metal Products | 3.44 | 1.29 |
| Non-Electrical Machinery | 106.64 | 39.99 |
| Electric & Electronic Machinery | 12.04 | 4.52 |
| Transportation Equipment | 15.27 | 5.73 |
| Scientific Instruments | 11.42 | 4.28 |
| Other | 8.36 | 3.12 |
| Total | 266.66 | 100.00 |

Source: U.S. Bureau of the Census, 1987 (computer tape).

**TABLE 4**

**Oklahoma Major Agricultural Exports (millions of dollars)**

| | 1985 | 1986 | 1987 |
|---|---|---|---|
| Wheat | $353.2 | $203.6 | $196.3 |
| Soybeans | 11.8 | 11.6 | 13.7 |
| Peanuts | 10.1 | 9.7 | 11.7 |
| Cotton | 27.7 | 14.7 | 35.1 |
| Live Animals & Meat | 18.1 | 20.6 | 24.7 |
| Hide & Skins | 17.5 | 20.0 | 24.1 |
| Poultry | 3.2 | 3.5 | 6.7 |
| Fats | 9.0 | 7.3 | 6.8 |
| Other | 20.2 | 20.0 | 23.1 |
| Total | 470.8 | 311.0 | 342.2 |

Source: U.S. Department of Agriculture, *Foreign Agricultural Trade of the U.S.*, March/April, 1988.

Single Market and mergers and consolidations take place, the small-size and relatively inefficient firms of the less developed areas of the EEC may attempt to slow down their integration in order to protect themselves from intra-market and extra-market competition. In this regard, all indications are that legislation toward the creation of the Single Market, because of the fears of national governments on local industries, is moving slowly.

Various spokespersons in Brussels have tried to allay the fears of a Fortress Europe by stressing the fact that the EEC is the world's largest exporter, i.e., about one-fifth of world trade, and because of that it has a vested interest in free trade.[13] U.S. government and business officials are concerned that the EC's new regulations to curtail Japanese auto and electronics imports will adversely affect U.S. exports also. Apropos a recent directive of the EC requiring that half of all TV time be alloted to European productions drew strong U.S. protests. As a result the EC has softened its stand converting its requirement to a recommendation. In a recent visit to Washington, D.C., EC Commission President Jacques Delors has underscored the importance and desirability of a true and friendly partnership with the U.S.A.[14] Notwithstanding these reassurances, there appears to be little doubt that the benefits of Europe 1992 will not be given away to all and especially to those whose markets are closed to Europe. A likely scenario is the strategy of reciprocity, that is, the benefits of Europe 1992 to firms of non-members will be conditional upon a guarantee for similar opportunities in those firms' own countries.[15] Given the fact that there is a certain degree of ambiguity with the concept of reciprocity, attempts to define it, especially as it pertains to financial firms, include the following possibilities.

(1) Reciprocity may mean that the treatment of non-member firms in the EEC will mirror the treatment the EEC firms receive in other countries. In this regard, if financial regulations in the U.S. do not correspond to those of the EEC the mirror approach may prove discriminating to U.S. firms in the EEC. To avoid this, the U.S. will have to change financial regulations to mirror EEC practices in order for its firms to be given equal access to Europe 1992.

(2) Reciprocity may mean that non-member firms will be accorded national treatment in the EEC. This implies that U.S. banks will be treated the same way as EEC banks. This approach will make it possible for U.S. banks to compete equally with the EEC banks throughout the Single Market.

(3) Rules of reciprocity may not be applicable to non-member firms which are already operating in the EEC.

In the final analysis, the challenge facing the EEC and its trade partners, e.g., the U.S.A., is to help accentuate the positive aspects of the Single Market and to enter into discussions and/or negotiations in order to avoid the adoption of standards and restrictive practices which may lead to the establishment of a protective wall. In this connection, increased understanding of the workings of the EEC and vigilance on developments leading to the Single Market is necessary. The possibility for appropriate official action must be kept open.

## Conclusions

The Single European Act represents a recommitment to the general goals of the Treaty of Rome and a concerted effort to amend it in order to attain an integrated Europe. The potential benefits of the Single Market, both on the micro and macro levels, to member and non-member countries e.g., the U.S.A., may be substantial. However, these potential benefits are premised on a number of changes and/or reforms in areas such as agricultural policy, development of the less developed areas of the EEC, monetary and fiscal harmonization and international openness and competitiveness. In turn, the implementation of these changes depends on the political will of the members to act in unison. If there are differing perceptions in the distribution of these benefits among the member countries, national concerns leading to exceptions may dilute European initiatives, and the required changes may be postponed or delayed. Recent developments associated with the German reunification may dilute the ability of the EC to assist effectively the less developed areas of the community, may undermine the EMS and raise the level of concerns about German domination among the small countries of the EEC. If these prove to be the case, the establishment of a Single Market and of an integrated and openly competitive Europe may continue to be an elusive goal with adverse influences on internal and external trade, and on U.S. and Oklahoma exports to the EEC. In that event, Europe, and the trading community at large, may have to be satisfied with a half loaf rather than a full loaf, at least in the short run. Thus, a loose customs union or free trade area may continue until Europe attains greater social and economic cohesion and learns to embrace and practice supranationalism.

## Notes

[1]A modified form of this article appeared in *Oklahoma 2000*, 1990.

[2]*Treaties Establishing the European Communities*, abridged edition (Luxembourg: Office for Official Publications of European Communities, 1987), pp. 125-126.

[3]EC Office of Press and Public Affairs, *European Community News* (Washington, D.C., October 20, 1988), pp. 1-7.

[4]See Eurostat, 1988.

[5]Paolo Cecchini, *The European Challenge, 1992* (Aldershot, England: Wildwood House, 1988), 3-127.

[6]European Affairs/Dossier, "The European Monetary System," *Europe* (December 1987): 22-25.

[7]For instance, a liter of pure alcohol in the United Kingdom is subject to 24.83 ECUs in tax, in France 11.49 ECUs and in Greece .48 ECUs.

[8]Pierre Pescatore, "Some Critical Remarks on the Single European Act," *Common Market Law Review* (1987): 12.

[9]*Ibid.*, p. 17.

[10]See U.S. Bureau of the Census, 1987 (Computer Tape).

[11]U.S. Department of Commerce, "U.S. Manufactured Exports and Export-Related Employment," 1984.

[12]Because indirect export sales are involved in both the agricultural and manufactured exports of Oklahoma, estimates must be viewed as tentative.

[13]EC Office of Press and Public Affairs, *European Community News* (Washington, D.C., October 20, 1988), p. 1.

[14]Carola Kaps, "Delors Proposes New Partnership with U.S.," *Europe*, (July-August 1989): 14.

[15]EC Office of Press and Public Affairs, *European Community News* (Washington, D.C., October 20, 1988), p. 1.

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